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Hunterian Lecture
ON
CHANGES IN THE BLOOD IN THE CAUSATION OF SURGICAL SHOCK.

Delivered before the Royal College of Surgeons of England on Feb. 9th, 1914,

BY A. RENDLE SHORT, M.D., B.S., B.Sc. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON AT THE BRISTOL ROYAL INFIRMARY; LECTURER IN PHYSIOLOGY IN THE UNIVERSITY OF BRISTOL; EXAMINER IN PHYSIOLOGY FOR THE FIRST F.R.C.S.

MR. PRESIDENT AND GENTLEMEN,—I desire to express my very sincere appreciation of the honour of being permitted to address you this afternoon. My subject is one of the meeting-places of physiology and surgery. These meeting-places are likely in the future to assume more and more importance. Anatomy has been the traditional road to surgery in the past, but it has almost paid the sum-total of its contributions towards the advancement of surgical science. Physiology, on the other hand, which has grown out of all knowledge in the past 20 years, still stands full of gifts, as the work of physiologists like Horsley, Crile, and Cushing has already shown. Primitive surgery had to face four apparently insurmountable barriers before it could fulfil its mission in the saving of human life and the relief of suffering. The first of these was hæmorrhage, and the victory had already been gained in Hunter's day. The second was pain. This barrier fell down when anæsthetics were introduced. The third was sepsis, a danger which Lord Lister showed us how to triumph over. The last great barrier to be conquered is shock, and we do not yet see how the assault is to be made. But three victories make us very confident of final success, and we believe that one day surgery will have lost its main terrors and will be able to bring benefit to patients who are now doomed to die unrelieved; for instance, cases of intracranial or intrathoracic disease, and what we now call inoperable carcinoma. We may not hope to prevent or treat surgical shock until we have an accurate conception of its nature and causation, and we shall proceed to pass in review some of the suggestions which have been made, and to see how they fare under the criticism of exact experiment. This review will be in a sense the mental autobiography of the writer, inasmuch as he has been attracted by each theory in turn, but on putting it to the test has had to give it up for another.

It will be useful first to quote from an esteemed writer the symptoms of shock as they appeared before attempts had been made to fit them into any of the modern theories. Sir W. Watson Cheyne[3] wrote in 1898: "The patient who is suffering from shock is usually found lying in a state of complete muscular relaxation, or if he makes any movements they are very irregular and feeble. The face is pale and drawn, the pupils dilated, there is sweating about the head, the reflexes are very slight, there is diminished sensibility, but not absolute unconsciousness. The patient can answer questions when spoken to, but if not disturbed will generally lie in a semi-conscious condition. The respirations are feeble, irregular, and sighing. The pulse is small, frequent, and dicrotic. At first the pulse-rate is generally slowed, and increased frequency of the heart beat is regarded by some as a sign of the commencement of reaction. The skin is cold; the temperature subnormal." With the possible exception of the statements concerning the pulse-frequency, this clinical picture will command universal assent. We shall have to refer to it repeatedly.

THE THEORY OF CRILE AND MUMMERY.

Some of us well remember the eager interest with which we read Mr. J. P. Lockhart Mummery's exposition of this theory in 1905. His work was in the main a confirmation of the laborious researches of Professor Crile in America. The essence of the theory is that the vaso-motor centre in the brain is first stimulated and then exhausted by painful, or as we should now say nociceptive, impulses coming to it from the afferent nerves. All the phenomena of shock are due to this primary exhaustion of the vaso-motor centre. The most characteristic index of shock is the fall of blood pressure. It will not be necessary here to set forth the arguments by which this view was defended. Surgery undoubtedly owes a great debt to Crile's researches. He has established for us the importance of the sphygmomanometer in measuring shock, the value of nerve-blocking in preventing it, and the general principles of its avoidance and treatment. Nevertheless, it is scarcely going too far to say that the theory is beyond doubt erroneous. It has been maintained by a number of competent observers, both on clinical and experimental grounds, (*a*) that the peripheral arteries may be contracted, not dilated, during shock; and (*b*) that the vaso-motor centre is not necessarily exhausted, even in extreme shock. If the failure of the vaso-motor centre was the main factor in the genesis of shock, an examination of the pulse and blood pressure would be a sure indication of the patient's condition. No doubt a bad pulse and a fall of tension are grave signs, but no surgeon, anæsthetist, or practitioner accustomed to judge of the prospects of a patient after a severe operation will dare to maintain that because the pulse is good and the blood pressure normal there can be no fear of death from shock. Only too commonly, in spite of an apparently efficient vaso-motor centre when the patient leaves the table, severe depression of all the vital functions comes on a few hours later and death follows. There may be shock, then, with a normal blood pressure.

Again, Mr. J. D. Malcolm[4,5,6] has repeatedly pointed out that the condition of a patient in shock does not correspond with the clinical picture of vaso-motor paralysis. Compare it, for instance, with belladonna poisoning, in which the small arterioles are undoubtedly released from nervous control, causing, as we know, a flushed skin. In shock, on the other hand, the skin is pale, the pulse is small, bleeding is scanty, and the anuria suggests that the renal vessels are contracted. The abdominal viscera are pale unless they have been long exposed. Seelig and Lyon point out that the retinal blood-vessels are contracted to one-half or one-third their normal calibre, and amaurosis may occur (it is possible, however, that the retinal vessels, like the cerebral, are not under the direct control of the vaso-motor system). Warmth does the patient more good than cold, whereas if the cutaneous vessels were dilated the reverse should be the case. Mr. Malcolm's observations have not attracted the credence they deserve, because it is so difficult to understand how there can be a fall in blood pressure with an efficient heart and contracted vessels.

Animal experimentation confirms the clinical

findings. Even Professor Crile consistently records that the arteries in shock are empty. He also points out that crushing the testes causes a primary fall in blood pressure without a previous rise; the vaso-motor centre, therefore, cannot be in a condition of fatigue exhaustion. Seelig and Lyon [7] [8] measured the outflow from the cut femoral vein of an animal in 5-second periods. The sciatic nerve was then cut, and the flow of course increased in consequence of the withdrawal of tonic vaso-constrictor impulses. They repeated the experiment on animals in a condition of extreme shock. The outflow was naturally less than normal, but on cutting the sciatic nerve there was a prompt and considerable increase in the flow. Therefore the vaso-motor centre must still have been sending out tonic impulses. Again, they found that in normal animals stimulation of the central end of the cut vagus causes a rise in blood pressure. The rise is just as marked, in proportion, if the experiment is repeated in an animal in a state of extreme shock. Therefore, again, the centre cannot be exhausted. Porter [9] found that the fall of blood pressure due to stimulation of the depressor nerve also takes place, and is proportionally as marked, in shocked animals. Tyrrell Gray and Parsons [10] found that when an animal is in a state of shock consequent on an operation on the hind limbs, so that stimulation of the sciatic nerve causes a fall instead of a rise of blood pressure, yet stimulation of the brachial nerves will still produce a rise. The fatigue, therefore, was in the afferent pressor paths, not in the vaso-motor centre.

We are left, then, with the conclusion that although shock commonly induces a fall of blood pressure, the vaso-motor centre is not primarily exhausted, and the vessels may be contracted. How can this paradox be explained? Boise [11] believes that the cause of shock is spasm of the heart, but his view has met with little favour, and his experimental evidence is unsatisfactory. All observers agree that the heart has not seriously failed in shock. It responds excellently for a time to the extra work put upon it by a large saline transfusion. It is true that the output of the ventricles in shock is small, but this is due to deficient filling, not to impaired contractile power. Once again, then, we must face the crucial paradox of shock, a fall in blood pressure, in spite of normal heart and contracted peripheral arteries.

THE ACAPNIA THEORY OF YANDELL HENDERSON.

The very laborious and lengthy investigations which lie at the back of this theory have rather escaped notice in England, because they were published in an American journal of physiology, and it is only within the last year or two that their great importance has attracted attention. The author is professor of physiology at Yale University. I shall not attempt here to set forth the experimental basis of the theory, having already done so elsewhere.[12] [13] Very briefly the sequence is declared to be as follows:—

1. *Hyperpnœa*, that is, excessive breathing due to painful or nociceptive impulses.

2. Leading to *acapnia*, that is, reduction of carbon dioxide in the blood. In abdominal operations carbon dioxide is exhaled from the intestines, giving rise to a further reduction.

3. Acapnia causes *failure of the veno-pressor mechanism*, that is, loss of tone and consequent dilatation of the veins. According to the author, venous tone is controlled by the CO_2 in the blood.

4. *Venous anoxhæmia, tissue asphyxia, acidosis.*—Owing to the reduction of CO_2 in the blood, the respiratory centre is not roused to activity, and the oxygen in the blood is therefore not renewed, so that the tissues suffer from deprivation of oxygen, and acid products enter the blood.

5. *Acute oligæmia.*—Henderson considers that loss of carbon dioxide leads in some obscure way to rapid escape of the plasma from the circulatory blood out into the tissues.

6. *Death*, usually from tissue asphyxia, or from failure of enough blood to get back to the heart to continue the circulation, on account of the oligæmia and the dilated toneless veins.

The theoretical treatment of shock, therefore, is to give carbon dioxide to breathe, to transfuse with carbonated saline, and to fill the abdomen with warm saline saturated with CO_2. Whilst fully recognising the great value of this research, the labour expended upon it, and the learning with which it has been supported, the present writer, although at first attracted by the theory, has felt compelled to abandon it as an explanation of routine surgical shock in man. No doubt it is possible to induce a condition resembling shock by acapnia in animals, and probably in man, and enthusiastic anæsthetists who are experimenting with the intratracheal administration of ether will do well to study Yandell Henderson's original papers.

The objections to acapnia as an explanation of human surgical shock following injury or operation are as follows. Some purely physiological criticisms are omitted. 1. Hyperpnœa from painful stimuli is not sufficiently severe or prolonged, one would have thought, to reduce the CO_2 from 40 to 50 per cent., the normal, down to 10 per cent., as in some of Henderson's analyses of the blood in shocked animals. Shock often comes on quite soon, in half an hour or less. 2. If the theory were true, shock would be impossible during an operation where a Clover's inhaler was used throughout. Some anæsthetists believe that the Clover is better than open ether in averting shock, but no one will suggest that any operation, however severe, can be performed with safety provided the patient is kept blue. 3. Even in animals in a condition of acapnia it was not found possible to save their lives by carbon dioxide. 4. All Henderson's work was upon animals under experimental conditions. It is quite unsafe to apply the results to human surgery without study of the CO_2 content of the blood in man.

The Writer's Analyses of Carbon Dioxide in Venous Blood in Human Cases of Shock.

The technique was as follows. A bandage was tied round the patient's arm and the skin sterilised with iodine. With a boiled needle a hypodermic syringe full of blood was withdrawn from the median basilic or other vein, two drops of oxalate being in the syringe to prevent clotting. The blood was immediately expelled beneath the surface of 0·5 per cent. ammonia, and the carbon dioxide liberated by strong tartaric acid and estimated by means of Barcroft's apparatus in a water bath to keep the temperature constant. In animals, the CO_2 content of venous blood is about 40 to 50 per cent. The results obtained are set forth in the tables. It will be observed that there is no evidence in any of these 5 cases of any noteworthy fall in the CO_2 during shock. That the method would be capable of detecting such alteration is shown by the high figures in 2 cases in which

the anæsthetist called attention to the fact that the patient was cyanosed. In Henderson's animal

TABLE I.—*The CO_2 Content of Venous Blood in Man.*

A. *Normal Cases.*	CO_2 per cent.
1. Healthy male adult; not under anæsthetic	45·8
2. Healthy male adult; not under anæsthetic	41·1
3. Male, aged 25. Beginning of operation for fracture of tibia. No shock, not cyanosed. Ethyl chloride ether (Clover)	39·9*
4. Male, aged 50. Double castration; no shock. Open ether. Beginning of operation, pulse 84	46·0
End of operation, pulse 96 (½ hour later)	51·5
5. Male, aged 14. Hernia. No shock. Open ether and $CHCl_3$. At end	54·4
Average	46·4

* This figure, an early experiment, is probably too low.

B. *Cases with Shock.*	CO_2 per cent.
1. Male, aged 14. Perforated wounds of intestine (four holes) and urethra from perineal puncture 14 hours before. Early peritonitis. Looked bad, pulse 120, blood pressure 105. Open ether—$CHCl_3$. Sample taken at end of operation	52·1
Sequel.—Died a week later from empyema.	
2. Male, aged 27. Perforated gastric ulcer. Pulse 100-120, blood pressure 104. Open ether. Sample taken whilst viscera were being pulled	42·5
Sequel.—Died 18 hours after.	
3. Female, aged 50. String cancer of colon causing chronic obstruction, excised. Pale, slight shock, pulse 75. Open ether. Sample taken at end of operation	48·9
Sequel.—Recovered.	
4. Male, aged 40. Cancer of colon; acute intestinal obstruction 12 hours, incessant vomiting. Very bad, pulse 140. Sample taken during manipulation of bowels	46·8
Sequel.—Recovered.	
5. Female, aged 64. Seven days before had ileostomy and resection of loop of gangrenous gut for intestinal obstruction with vomiting for five days, becoming fæcal. Now, second operation for lateral anastomosis, 70 minutes. $CHCl_3$—open ether. Pulse 120, very bad, too small for blood pressure to be obtained. Sample taken at end	44·2
Sequel.—Died 14 hours later.	
Average	46·9

C. *Cases with Cyanosis.*	CO_2 per cent.
1. Male, aged 30. Operation for hernia. Ethyl chloride-ether (Clover). Blood pressure 140, no shock	74·2
2. Male, aged 22. Hernia. Ethyl chloride-ether (Clover). No shock	59·5

experiments the CO_2 fell to 20 or even 10 per cent. It may be objected that the number of estimations is small, but surely acapnia cannot be the ordinary cause of shock if each of five cases fails to show it. In some of the patients there was a toxæmic factor, but Yandell Henderson definitely claims that acapnia is responsible for toxæmic as well as for traumatic shock.

We conclude, therefore, that acapnia is not the cause of ordinary surgical shock. We are still left face to face with the problem of a falling blood pressure with normal heart and contracted arteries.

THE OLIGÆMIA THEORY OF COBBETT AND VALE.

There is one very tempting explanation of the phenomena of shock to which attention must next be directed. If the total blood volume were reduced (*oligæmia* = scanty blood) the blood pressure would fall and yet the heart and vasomotor centre might act well and the arteries be constricted. Sherrington and Copeman[14 15] have shown that intraperitoneal operations and also scalds in animals do, as a matter of fact, raise the specific gravity of the blood. An intestinal anastomosis lasting a quarter of an hour raised the specific gravity in one animal from 1·054 to 1·062.

Roy and Cobbett opened the abdomen in dogs and cut, pulled, or ligatured the intestines for 12 to 18 hours continuously under an anæsthetic. At first the blood showed no change, then its specific gravity rose steadily, as much as by 0·014 at the end of the prolonged manipulations. The specific gravity of the intestines fell; that of the muscles rose. The blood pressure began to drop some hours after the specific gravity of the blood rose. Cobbett has published these researches with the suggestion that a similar concentration of the blood is the causative factor in surgical shock, and Vale has attempted to establish the theory by blood examinations in man. On this view shock and collapse are identical. The suggestion is, of course, that the fluid lost has been poured out into the injured area. Grünbaum is quoted by Cobbett as having examined the blood after three laparotomies in man, and in each case there was a rise of from 5 to 7 points, but no details are given. Vale made observations on four patients, estimating the specific gravity by the Roy method. In the first case an abdominal fistula was closed by operation; the specific gravity before operation was 1·053, and afterwards 1·063: there is said to have been "mild shock," but the blood pressure was 130. Three other cases were accidents each showing "mild shock." The results were as follows: Case 2, when seen, specific gravity 1·063, next day 1·058. Case 3, when seen, specific gravity 1·066, next day 1·064. Case 4, when seen, specific gravity 1·063, next day 1·058. Although one is attracted by this theory at first sight, and it has been accepted by Mummery, Malcolm, and Yandell Henderson, it is difficult to understand where all the fluid has escaped to, or what drives it out. One does not see much exudate, for instance, in an amputation at the hip-joint, but shock may be severe. Vale's analyses were made by the difficult Roy method, and although his figures appear higher than usual, this is due to the fact that those ordinarily quoted are obtained by Hammerschlag's method, which gives results decidedly lower. Moreover, it does not appear that any of Vale's cases were suffering from a marked degree of shock. However, it was not difficult to obtain definite evidence as to the correctness of the theory, and I have therefore estimated the specific gravity of the blood in a number of cases of surgical shock.

Method.—Hammerschlag's method, slightly modified, was employed. A mixture of chloroform and xylol was prepared having a specific gravity approximately that of blood. A few drops of blood were obtained from the patient's ear, without squeezing, and immediately transferred by a capillary tube to the mixture, to which chloroform or xylol were added until the blood neither rose nor sank. The whole estimation needs to be carried out quickly. Then the specific gravity of the mixture was taken with a hydrometer. It is easy to obtain readings correct to the third decimal. As Levy[16] has pointed out, the method gives results which are rather too low, because the hydrometer is graduated for watery solutions, and surface tension in the chloroform-xylol mixture is different. One has therefore to use the same hydrometer and correct its readings by a special estimation. With the hydrometer used in these experiments one has to add 0·003 to the reading obtained. The normal specific gravity of human blood is about 1·057 in women and 1·060 in man. These results are rather higher than those quoted by the older text-books, because these did not correct the hydrometer readings. All the figures given here are corrected readings.

A study of Table II. reveals a number of points of interest. In the first place, it is quite clear that oligæmia cannot be the essential factor in shock. A marked rise in the specific gravity of the blood is the exception, and not the rule. Cases 1 and 10, for instance, showed every sign of grave shock, and

TABLE II.—*Specific Gravity of the Blood in Cases of Shock in Man.*

1. Female, aged 59. Wertheim's hysterectomy for cancer of cervix. Given a pint of saline and glucose 4 hours previously. Patient anæmic. Towards end of operation patient failed much. Operation lasted 1½ hours; about 6 oz. blood lost altogether. Blood pressure near end

74, then pulse disappeared. Anæsthetic, $CHCl_3$ and open ether about equally; Clover at intervals. Specific gravity at beginning 1·048. Specific gravity at end 1·045. *Sequel*, died 3 days later.

2. Female, aged 63. Cancer of splenic flexure removed, 1¼ hours. Very fat patient. Very little blood lost. Pulse good at end, but patient looked bad. Specific gravity at beginning 1·058. Specific gravity at end 1·060. *Sequel*, died suddenly 3 days later.

3. Female, aged 36. Post-partum shock. Lost 15 ounces of blood at confinement. Presentation normal; adherent placenta extracted under $CHCl_3$. Severe shock four hours later, pulse ?160, too feeble for blood pressure to be taken. Looked bad. Saline had been given per rectum. Six hours after delivery specific gravity 1·060. *Sequel*, recovered.

4. Male, aged 39. Intramedullary plugging for fractured femur; traction by Lambotte's extension apparatus. No hæmorrhage; one and a half hours. Severe operation, but very little shock; blood pressure at end 134. Specific gravity at end 1·061. *Sequel*, recovered.

5. Female, aged 50. Big breast cancer operation with supraclavicular glands; one hour. Several attacks of syncope, but not marked shock. At end, pulse 60, blood pressure 108. Specific gravity 1·060. *Sequel*, recovered.

6. Male, aged 30. Perforated typhoid ulcer, very bad. Near end, specific gravity 1·061. *Sequel*, died within 24 hours.

7. Female, aged 18. Extensive burns seven hours before, involving abdomen, buttocks, thighs, hands, and arms. Pulse good, but looked ill; vomiting; thirsty. Specific gravity, 1·072. Next day, specific gravity, 1·072. Twelve days later specific gravity, 1·059. *Sequel*, recovered.

8. Male, aged 40. Arthroplasty of hip; patient feeble, with ankylosed spine. Took one and a half hours. Pulse soft and feeble, disappeared at intervals. Blood pressure near end 85; temperature after operation 96·6°. Specific gravity at beginning 1·062. Specific gravity at end 1·063. *Sequel*, recovered. Blood pressure three days later 115.

9. Female, aged 36. Extensive cancer of stomach; vomiting incessantly for several days. Gastrojejunostomy. No signs of shock clinically. At beginning, specific gravity 1·055; at end, specific gravity 1·059. *Sequel*, recovered.

10. Female, aged 43. Wertheim's hysterectomy for cancer of cervix. Full anoci-association. Bladder wounded and sewn up. Bad shock at end (2 hours), pulse quick and feeble, blood pressure 70. At beginning, specific gravity 1·046; at end, specific gravity 1·047. *Sequel*, died 15 hours after.

11. Female, aged 62. Jumped from a window. Fractures of both femurs; scalp wound. Six hours after specific gravity 1·060. *Sequel*, recovered.

12. Female, aged 29. Severe burns from knees to umbilicus 10 hours before. Pulse quick and feeble, marked shock. Specific gravity 1·073. *Sequel*, recovered.

13. Girl, aged 2½. Burns of face and thighs, about 9 inches square. Pulse 90, no shock. Blood taken 4 and 8 hours after. Specific gravity 1·060. *Sequel*, recovered.

both died from it, yet the specific gravity of the blood showed a fall in one case and a wholly insignificant rise in the other. Nothing but a rise of 0·010 would be sufficient to indicate a loss of fluid likely to reduce the blood pressure. We may take it, therefore, that the oligæmia theory of Cobbett and Vale is definitely disproved as the ordinary cause of surgical shock. We notice, further, that the only operation case which showed a marked rise was a bowel anastomosis. Sherrington, and also Roy and Cobbett, made their original observations on the specific gravity of the blood on animals whose intestines were manipulated. Probably this handling leads to an effusion of fluid into the peritoneum.

By a singular mischance it was only possible to obtain the blood of two severe burn cases. These showed a most remarkable rise in the specific gravity in one patient amounting to 0·013, and lasting over 24 hours. This corresponds to a loss of fluid of about a quart from the circulation, and probably explains the thirst and the vomiting. Perhaps further investigation may show that in burn cases oligæmia *is* an important factor in the causation of shock. It is quite clear that the administration of as much fluid as possible is urgently indicated.

A third point of interest is with reference to the two cases of Wertheim's hysterectomy (Cases 1 and 10). It will be observed that the specific gravity before operation was very low—1·048 and 1·046, instead of 1·057. This was probably the result of prolonged loss of blood. Both cases died from shock. It has been found by Douglas that a fall in the specific gravity of the blood is common in cancerous cachexia. We may have here an easy means of detecting cases whose general condition is already too grave to permit of major surgery. The estimation of the specific gravity is simple, only takes three minutes, and can be done with a drop or two of blood. It remains to be determined just where the limits of safety lie. In the two fatal cases there was a fall of 0·010. The writer has performed a big operation with no ill effects on a man whose blood was reduced to 1·053.

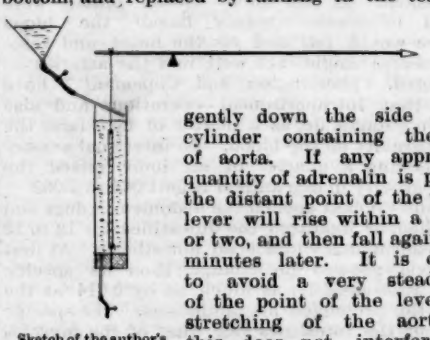
THE SUPRARENAL EXHAUSTION THEORY.

Perhaps no one has definitely formulated any such theory as yet, but it is certainly deserving of examination. Recent physiological research has shown that painful stimuli lead to a reflex outpouring of adrenalin from the suprarenal glands into the circulating blood (Elliott,[18] von Anrep,[19] Levy[21]). If this took place to a considerable extent there would be a preliminary rise of blood pressure, followed, perhaps, by suprarenal exhaustion and a profound fall of pressure in spite of a normal heart and vaso-motor centre. Bainbridge and Parkinson[20] found absence of the chromaffin substance in the medulla of the suprarenals in two patients who died from shock. Priestley found the same absence in 84 per cent. of cases dying with a low blood pressure. Here, at least, is a *primâ facie* case for the suprarenal exhaustion theory.

Examination of the chromaffin substance is not a very convincing means of settling the problem. It is quite probable that the chromaffin substance and the adrenalin content run parallel, and there are observations in support of this view, but it would be much more satisfactory to make direct estimations of the quantity of adrenalin in the blood and in the suprarenal glands in cases of shock. For this purpose I have devised an *adrenalinoscope*, which is a further advance on a method already used by Douglas Cow and also by O. B. Meyer.[22]

The Author's Adrenalinoscope.

A rabbit is killed by a blow on the head, and the thoracic aorta rapidly dissected out. With fine sharp scissors a spiral strip of aorta is cut about a quarter of an inch wide from the whole length of the aorta. We thus obtain a strip about three inches long, in which the circular muscle of the aorta is running longitudinally, so that a vaso-constrictor drug will induce shortening. One end of the spiral is transfixed on a hook secured in a cork at the bottom of a vertical glass cylinder, and the upper end is connected by a thread with a long lever recording its movements on a smoked drum. The spiral is, of course, stretched straight by the weight of the lever. The glass cylinder contains warm normal saline, which can be drawn off through a tube with stopcock in the cork at the bottom, and replaced by running in the test fluid



Sketch of the author's adrenalinoscope.

gently down the side of the cylinder containing the strip of aorta. If any appreciable quantity of adrenalin is present, the distant point of the writing lever will rise within a minute or two, and then fall again a few minutes later. It is difficult to avoid a very steady fall of the point of the lever from stretching of the aorta, but this does not interfere with the reaction. (See Figure.)

This adrenalinoscope is extraordinarily delicate, and will show an appreciable contraction with as

little as 1 in 500 million of Parke, Davis, and Co.'s adrenalin (i.e., 1 in 500,000 of their solution, which is 1 in 1000). I have used this method, first, to find whether there is any evidence that the blood is flooded with adrenalin during a surgical operation; and second, to estimate the relative quantity of adrenalin left in the suprarenal glands after death from shock. In two cases, which were the same as those numbered 8 and 9 amongst the specific gravity estimations, a hypodermic syringeful of oxalated blood was withdrawn from a vein towards the end of the operation, and diluted with sufficient saline to fill the glass cylinder containing the spiral strip. In neither case was any adrenalin contraction recorded.

It may be objected that there would not be sufficient adrenalin in the circulating blood of the patient to react even to so delicate an adrenalinoscope as one detecting 1 in 500 million, but calculating from the supposed quantity in the human suprarenals, 5 milligrammes according to Battelli,[23] it is difficult to believe that the glands could be exhausted in an hour or two and yet the amount in the blood escaped recognition.

More convincing, perhaps, are observations on the suprarenal glands of patients dying from shock. These were removed as soon as possible after death (from 6 to 24 hours), packed and transported in ice, cut open in 15 c.c. of normal saline, and the medullas thoroughly scraped out. Various dilutions in normal saline were then tested in the adrenalinoscope to determine the highest dilution giving a definite rise of the lever. Thus in Case A, strong solution of the suprarenal extract in saline, great rise of lever; 2 drops of suprarenal extract in 50 c.c. saline, 12 mm. rise; 2 drops of suprarenal extract in 500 c.c. saline, 1 mm. rise; and weaker solutions of the suprarenal extract, no rise. The results in four cases of death from shock and three control cases are set out in Table III.:—

TABLE III.—*Examination of Suprarenal Glands for Adrenalin after Death from Shock and in Control Cases. Medulla of both Suprarenals Extracted in 15 c.c. of Normal Saline.*

	Highest dilution causing contraction.
I.—*Shock Cases.*	
A Male, aged 46. Nephrectomy for enlarged kidney, nature doubtful. At necropsy second kidney found not functioning. Died 4 hours after operation	1 in 4250
B. Woman, aged 43. Wertheim's hysterectomy for cancer (= Case 10 in Table II.). Died 15 hours after operation	1 in 850
C. Male, aged 53. Fell from ladder. Fractured pelvis, fractured humerus, retroperitoneal hæmatoma. Died 2½ hours after fall	1 in 850
D. Female, aged 65. Knocked down by taxicab and died 4½ hours later. Necropsy showed fractured pelvis and sternum	1 in 6000
II.—*Control Cases.*	
E. Male, aged 40. Symptoms of chronic heart failure. Syphilitic aortitis and myocardial degeneration	1 in 850
F. Female, aged 46. Acute uræmia. Contracted granular kidney. Ill about a week. Blood pressure 240	1 in 4250
G. Male, aged 33. Acute miliary tuberculosis	1 in 4250

It is a curious coincidence that all but one of the cases should chance to fall into two groups of dilutions.

It is quite clear from the analyses that adrenalin exhaustion is not the significant factor in the causation of shock. The suprarenals are by no means exhausted. In two cases the adrenalin was as high as, or higher than, in the controls. According to Cevidalli and Leoncini,[24] the adrenalin content, measured by a colorimetric test, is low after a chronic illness. Anæsthetics are said not to affect it.

WHAT, THEN, IS THE NATURE OF SURGICAL SHOCK?

We have failed to discover any evidence that changes in the blood are the essential factor in the production of surgical shock, and are left face to face again with the crucial problem, how to find an explanation for a falling blood pressure with a normal heart and vaso-motor centre and contracted peripheral arteries. Since the examination of the blood has not helped us, we must return to the central nervous system.

There is a condition well known to experimental physiologists called *spinal shock*. In monkeys, and to a much less extent in cats and dogs, a high transection of the spinal cord is followed by grave interference with the functions of the cord distal to the section. For a period varying from hours to days no reflexes can be obtained, muscular tone is abolished, and the peripheral blood-vessels dilate. In human surgery we see the like condition in spinal concussion, in which, after a blow on the back, sensation, voluntary power of movement and reflexes may be abolished, but after a day or two are all restored to normal.

Professor Sherrington[25] has made some important investigations into the nature of spinal shock. In the first place, he shows that it only affects those segments of the cord distal to the lesion; thus, after an upper dorsal transection the cervical segments are not in shock. Secondly, he shows that after recovery has taken place a second transection—for instance, in the mid-dorsal region—will not reproduce the signs of spinal shock, proving that it was due to the withdrawal of influences descending from the brain or brain stem. Again, cutting across the mesencephalon, above the pons, does not induce spinal shock. Therefore the impulses preventing it must have come down from the region of the fourth ventricle. We also know that from this same region, and in particular from the central nuclei of the vestibular nerve, descend the impulses which give rise to excess of muscular tone. A transection of the mid-brain causes decerebrate rigidity of the limbs; a second transection below the medulla abolishes the excess of tone. On this subject the writings of Sherrington and of Thiele[26] may be consulted.

F. H. Pike,[27] of Columbia University, has lately published a very important research on spinal shock with particular reference to the blood pressure. He shows that there is a certain residual blood pressure, about 33 mm. of mercury, even after removal of the brain, provided that the cord is left intact, and that sensory stimuli will raise this pressure reflexly. When the cord is totally removed there is a very great fall of pressure. Apart from removal of the cord, curare produces a considerable reduction of blood pressure, both in normal and in spinal animals. This curare effect is not due to any action on the vessels, but to the abolition of tone of the voluntary muscles. This is in accord with the results of other workers.

Do we not here find a clue to our problem? We turn back to the very first sentence of Sir Watson Cheyne's classical description of shock, and read, "The patient who is suffering from shock is usually found lying in a state of complete muscular relaxation." And, later, "the reflexes are very slight." Loss of tone in the voluntary muscles, in the abdominal wall especially, allows great dilatation of the veins, and here, as Crile observed in his experimental animals, the blood accumulates. Therefore the blood pressure falls and the cardiac

output is reduced, in spite of undiminished power of the heart muscle and contracted arteries.

We must draw attention to the very significant fact that although the intramuscular and abdominal veins are dilated in shock, this cannot be due to some universal veno-dilator effect, because, as anyone who has had to perform intravenous transfusion on these cases will bear witness, the subcutaneous veins are smaller than normal. It may be objected that muscular tone is reduced in various nervous diseases and under anæsthetics without a marked fall of blood pressure, but it has to be remembered that in the nervous affections the onset is very gradual and can be compensated, and with anæsthetics there is stimulation of the heart and vaso-motor centre to counteract the loss of tone. Under ether, at any rate, the muscles may be very vigorous, as rigidity of the abdominal wall frequently reminds us. Chloroform, of course, does reduce the blood pressure after a time.

Without venturing to formulate a cut-and-dried theory, then, one may suggest that the nociceptive impulses which bring about surgical shock do so by inhibiting or paralysing the important nuclei in the region of the fourth ventricle and perhaps in the cerebellum, which, as Sherrington and others have shown, are continually sending impulses down the spinal cord, maintaining its functional activity and increasing muscular tone. When such inhibition or paralysis takes place the functions of the cord are greatly reduced, tone is abolished, and therefore, as a secondary result, the blood pressure may fall. The respiratory centre, and perhaps even the vaso-motor centre, share in this inhibition or paralysis; this is a very different conception from that which takes exhaustion of the vaso-motor centre to be the prime cause of all the symptoms. Death is due to accumulation of blood in the great veins, so that the *vis a tergo* is no longer able to provide a proper filling for the heart, especially as the feeble respiratory movements fail to exert their important pumping action.

A very striking example of this sequence is met with in what is called "the knock-out blow" in pugilism, or rather, one of such blows. A vigorous drive on the point of the lower jaw in a line from the chin to the condyles is transmitted directly to the labyrinth of the internal ear, and by way of the vestibular nerve impulses reach the nuclei of which we have been speaking. As a result a powerful athlete is immediately reduced to a mass of quivering, unstrung flesh, and may die outright. In a word, he is in a state of shock.

Perhaps it may be found possible to localise with accuracy the nuclei which are principally affected in surgical shock by histological examination for chromatolysis. Dolley and Crile have published very remarkable observations on changes in the nerve-cells in shocked or hunted animals, showing dissipation of the Nissl granules. These changes were best marked, not in the vaso-motor centre as Crile's theory would demand, but in the Purkinje cells of the cerebellum. Tyrrell Gray and Parsons found changes in the cuneate and gracile nuclei of the medulla.

I have so far had the opportunity of examining the brain of only one case by this laborious method, and therefore must express conclusions with all reserve. The patient was a healthy man who died 2½ hours after a fall from a ladder which caused a fractured pelvis, fractured humerus, and retro-peritoneal hæmatoma (Table III., Case C). The brain-stem and cerebellum were removed, hardened in formalin, sectioned with the freezing microtome, and stained by Nissl's method. The examination of a number of sections showed the following changes. Purkinje cells of cerebellum: All full of Nissl granules. No abnormal cells found in some hundreds examined. Cells of dentate nucleus of cerebellum: Practically all normal. Cells of various motor nuclei in medulla: All normal. Cells of inferior olive: The majority normal. A few showed reduction of Nissl granules. Cells of Deiters' nucleus (lateral vestibular): Some normal cells; majority showed considerable reduction of the granules, and many cells had practically none left. Cells of gracile and cuneate nuclei: Very remarkable absence of Nissl granules. Scarcely a granule to be found in the whole nucleus. We know that reduction of the Nissl granules is usually an evidence of exhaustion of nerve-cells, but it must distinctly be understood that we have no evidence that if a nerve cell is paralysed it must necessarily show histological changes, and absence of chromatolysis would not therefore prove that certain nuclei were able to function properly.

THE DIAGNOSIS, TREATMENT, AND PREVENTION OF SHOCK.

It must regretfully be admited that such a conception of shock makes diagnosis and treatment much more difficult. And first, *diagnosis* is difficult, because we may no longer place implicit reliance upon the blood pressure. No doubt a fall of pressure is our best sign of shock, but it ceases to be infallible. For instance, crushing the testis may induce a reflex depression through the vaso-motor centre, which is perfectly recoverable without any other signs of shock. Again, and surely we have all learned only too well the truth of this, a patient may be far worse than the pulse and pressure would lead one to think. A diagnosis of shock nowadays must take into account the whole clinical picture described by Sir Watson Cheyne, as well as the readings of the sphygmomanometer.

In the *treatment* of shock, the failure of the simpler theories leaves us sadly bereft of our weapons for meeting it. It was so easy to give pituitary extract for paralysed vaso-motors, carbon dioxide for acapnia, intravenous or subcutaneous saline for oligæmia, and adrenalin injections for exhaustion of the suprarenals, and so hard to understand why they might one and all fail. But what can one do for paralysis of the nerve-cells of all the vital centres? Evidently it is not enough merely to raise the blood pressure, although that may help a little by driving more blood to the brain, and so give the damaged nerve-cells the most favourable conditions for recovery. Saline transfusion or infusion has its value in maintaining the output of the heart. Recently the use of sodium bicarbonate instead of chloride has been advocated by several American writers on experimental grounds, though they find it hard to give a satisfactory explanation of its action.

It is doubtful if pituitary extract or adrenalin do any good, and Crile's teaching as to the futility of strychnine and alcohol is probably correct. Happily it is possible, to some extent, to exert pressure on the dilated veins, and so replace the deficient muscular tone by means of elastic bandages for the limbs and abdomen, taking care not to impede the action of the diaphragm. Intra-peritoneal saline fluid in large quantity would help in the same way. In cases of shock from burns

the indications for introducing plenty of saline are clear.

It is to the *prevention* of shock that we must look with hope and some degree of confidence for the future. No doubt Professor Crile's anoci-association methods are on the right lines, but to use his native country's expression, he has not quite "got there" yet. For instance, Case 10 in Table II. died from severe and typical shock in spite of a long time spent in thoroughly injecting the abdominal wall with novocain and the peritoneal surfaces with quinine-urea-HCl before cutting. Moreover, quinine-urea-HCl is destructive to the tissues, and we urgently require a drug which will be long-lasting in its effect without causing necrosis. On the other hand, in some of the writer's own abdominal cases it has worked like a charm, abolishing both shock and after-discomfort. The method is novel and can probably be improved in its details, and in blocking the up-paths of painful stimuli, as far as we can now see, lies the hope of the future. That problem once solved, we should be able to operate on desperate cases without that fear of death on the table or within a day or two which at present forms the barrier against the emancipation of surgery to do its beneficent work unhindered.

The present lecture is as a scout sent forth to survey the barrier, and a scout's difficult ambition is to tell a tale which the future will prove true.

My very best thanks are due to my surgical colleagues at the Bristol Royal Infirmary for allowing me to make use of their cases, also to Professor A. F. Stanley Kent, Dr. J. R. Kay-Mouat, Mr. G. Scott Williamson, and Mr. Scott White for kind help. The expenses of the research were assisted by the University of Bristol Colston Research Fund.

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CHILDREN'S HOME AT EXETER.—On Feb. 23rd the new home which the Exeter board of guardians have erected for children who were formerly resident in the workhouse was formally opened. The building is situated close to the workhouse at Heavitree, but quite separate from that institution. The cost is about £6500, and it will provide accommodation for 30 girls and 41 boys, with rooms for four attendants.

THE AGGLUTINATION OF M. MELITENSIS BY NORMAL COWS' MILK.[1]

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THE fact that the milk from cows in London is in some cases able to cause agglutination of the M. melitensis has lately been brought forward by Kennedy. He found a positive reaction with the milk of 3 out of 22 cows, and 5 times from mixed milks. The reaction was also obtained when using whey, but was diminished or altogether lost by filtering the milk through a Berkefeld or Doulton candle.

Anomalous reactions have frequently been described when examining goats' milk. In Malta Martel, Tannon, and Cretien state that as a means of diagnosis it is unreliable. In Algiers and Tunis in the laboratories of Sergent and Nicolle the importance of these lacto-reactions is highly rated, and Zammit carries out a very large number daily at Malta. Cows in the endemic area have been frequently noted by means of lacto-reactions as being infected, but I think no one depends upon it wholly for diagnosis.

It appears to be of the utmost importance to recognise that the reaction is a specific one, and that by its means an enormous amount of public health work for prevention of the spread of undulant fever is possible. It therefore renders it necessary to find out what error of technique has been committed to give rise to these misleading results. For two months I have been testing milks with this object without much success, but some of the reactions are so unexpected that I have ventured to bring them forward.

I first tested 16 samples of milk from separate cows with five different strains of M. melitensis at 1 in 2 dilution both microscopically and by sedimentation. Some strains were found to agglutinate much more easily than others. The type strain originally obtained from Wright at Netley acted best, the emulsion being made from a culture not more than 48 hours old. This was always controlled by specimens without serum, with normal serum, and with immune serum. A further series of samples from 21 other cows was obtained from two farms near. Besides these, 32 samples of mixed milks obtained from different dairies have been tested. A total of 69 samples.

I found that boiling the milk cut out all the reactions; that heating it to 60° C. for half an hour cut out some, but not all. That with the unheated milk of 37 individual cows—tested with equal parts of emulsion made with normal saline solution—3 reacted in ½ hour, 6 in 1 hour, and 6 by sedimentation; these were reduced to 2, 4, and 5 by heating the milk. (Table I.) In dilution of 1 in 20 of milk direct from the 21 cows I did not get any positive reactions either microscopically in 1 hour or by sedimentation with heated or unheated samples.

Of 32 samples of mixed unheated milks tested with equal parts of emulsion made with saline solution, 5 gave positive reactions in ½ hour microscopically and 11 by sedimentation. In dilution of

[1] Published by permission of the Medical Director-General of the Royal Navy.

1 in 20 there were 9 positives in one hour and 11 by sedimentation. (Table II.)

I noticed that frequently with the mixed milks the reaction was more strongly marked in those that were diluted to 1 in 20 than in the low dilutions. I thought that it might be the diluting fluid at fault. Similar specimens were therefore put up with saline and distilled water, and examined microscopically and macroscopically with heated and unheated milks at 1 in 2 and 1 in 20 dilutions. 32 mixed samples were thus tested and the reduction of the positive reactions with the distilled water was very marked—12 to 4, both emulsions agglutinating well the immune serum control. With the 1 in 20 dilution of milk the positives were reduced from 11 to a doubtful 3. The highest reaction obtained was 1 in 100 with mixed milk, which did not rise higher than 1 in 20 with water dilution.

When the milk is kept the reactions may quickly change, as shown in Table III. A sample of unheated milk taken direct from a cow gave complete negative reactions to all the tests, but 38 hours after the dilutions with saline were all positive up to 1 in 20, but still remained negative with the water dilutions. Heated samples gave complete positive reactions after that time.

Five samples from individual cows which had given positive reactions in low dilutions were plated out for isolation of M. melitensis but without success. I was unable to obtain a sample of serum for testing, but all the cows were stated to be in perfect health.

In Malta the milk is tested direct in a dilution of 1 in 20, using saline solution, and observing by the sedimentation method only. In the last return 50 per cent. of the goats so tested gave a positive reaction, which is possibly too high, but the result is always controlled by a serum reaction before the animal is considered to be infected. In Algiers and Tunis a dilution of 1 in 30 is used, the specimen being examined both microscopically and by sedimentation methods for six hours.

Result.—Using a 48 hours' culture for the emulsion and a dilution of 1 in 20 in this series, none of the milk from 21 cows gave a positive reaction when examined quite fresh, but with mixed samples of milk a high proportion reacted positively at this dilution, most of which were cut out by using heated milk and diluting with distilled water instead of saline solution. In any case it is very necessary to centrifuge the milk very thoroughly and to examine it at once, using an emulsion made from the M. melitensis not more than 48 hours old, and even then a few errors will

TABLE I.—*Milk from Individual Cows in London.*

1 in 2 dilution.

No.	Unheated.						Heated.					
	Saline solution.			H_2O			Saline solution.			H_2O		
	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.
1	—	+	+	—	—	—	—	+	+	—	—	—
2	—	+	+	—	—	—	—	—	+	—	—	—
3	—	—	+	—	—	—	—	—	—	—	—	—
4–16	—	—	—	—	—	—	—	—	—	—	—	—
17	+	+	+	+	+	+	+	+	+	+	+	—
18	+	+	+	+	+	+	+	+	+	+	+	—
19	+	+	—	—	—	—	—	—	—	—	—	—
20–26	—	—	—	—	—	—	—	—	—	—	—	—
27	—	+	+	—	+	+	—	+	+	—	+	—
28–31	—	—	—	—	—	—	—	—	—	—	—	—
32–37	—	—	—	—	—	—	—	—	—	—	—	—
	3	6	6	2	3	3	2	4	5	2	3	0
1 in 20 dilution.												
17–27	—	—	—	—	—	—	—	—	—	—	—	—
29–37	—	—	—	—	—	—	—	—	—	—	—	—

TABLE II.—*Mixed Milk from Different Dairies in London.*

No.	1 in 2 dilution.						1 in 20 dilution.					
	Saline solution.			H_2O.			Saline solution.			H_2O.		
	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.
1	—	+	+	—	—	—	—	+	+	—	—	±
2	+	+	+	—	—	+	—	+	+	—	—	—
3	+	+	+	—	—	—	+	+	+	—	—	—
4	—	—	—	—	—	—	+	+	+	—	—	—
5	—	+	+	—	—	—	—	+	+	—	—	—
6	+	+	+	—	—	+	—	+	+	—	—	—
7	—	+	+	—	—	+	—	+	+	—	—	+
8	—	+	—	—	+	—	—	—	—	—	—	—
9	—	+	—	—	—	—	—	—	+	—	—	—
10	—	+	+	—	+	—	—	—	+	—	—	—
11	—	+	+	—	—	—	—	—	—	—	—	—
12	—	+	+	—	—	—	—	—	—	—	—	—
13	—	—	+	—	—	—	—	—	—	—	—	—
14	—	—	—	—	—	—	—	—	—	—	—	—
15	—	—	—	—	—	—	—	—	—	—	—	—
16	—	—	—	—	—	—	—	—	—	—	—	—
17	—	—	—	—	—	—	—	—	—	—	—	—
18–22	—	—	—	—	—	—	—	—	—	—	—	—
23	+	+	+	—	—	—	+	+	+	—	—	—
24	+	+	+	—	—	+	+	+	+	—	+	+
25–32	—	—	—	—	—	—	—	—	—	—	—	—
—	5	13	12	0	2	4	4	9	11	0	1	3

Heating cut out reactions of Nos. 23 and 24.
Nos. 7 and 23 agglutinated with saline solution up to 1 in 100 and up to 1 in 20 with HO_2

TABLE III.—*Milk Direct from Cow No. 4.*

—	Saline solution.			H_2O.		
Dilution.	½ hour.	1 hour.	Sed.	½ hour.	1 hour.	Sed.
1 in 2	—	—	—	—	—	—
1 „ 20	—	—	—	—	—	—
First day: Heated.						
1 „ 2	—	—	—?	—	—	—
1 „ 20	—	—	—	—	—	—
Second day: Unheated.						
1 „ 2	+	+	+	—	—	—
1 „ 20	+	+	+	—	—	—
Second day: Heated.						
1 „ 20	—	+	+	—	+	+

Showing change in reaction for time.

occur by false clumps in the sedimentation tubes carrying down micrococci with them.

There is no doubt that cows' milk in some cases has a natural tendency to agglutinate the M. melitensis, but if care is taken most of these non-specific reactions may be avoided. The reaction always requires to be controlled by other methods of diagnosis before an animal can be considered to be infected.

A CASE OF TRANSGASTRIC EXCISION OF A GASTRO-JEJUNAL ULCER.

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AND
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THE operative treatment of a peptic jejunal or gastro-jejunal ulcer following a gastro-enterostomy is beset with many technical difficulties. This is notably true in cases where the original anastomosis has been of the posterior no-loop variety, and where in consequence the ulcer is somewhat inaccessible.

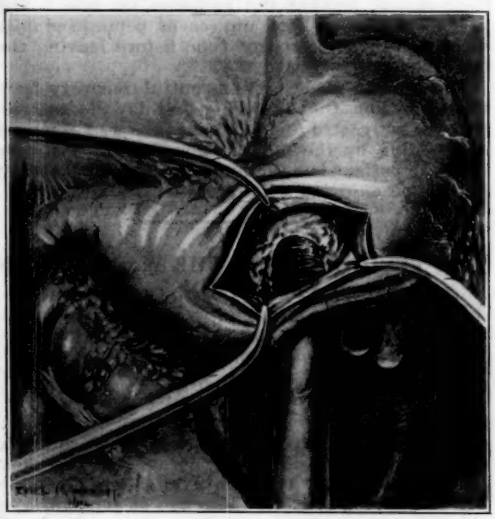
The usual procedure in operating for this type of ulcer is to resect the whole of the jejunal length engaged in the anastomosis, and also the adjacent portion of the stomach; and after this to make a new junction between the stomach and the jejunum. It is obvious that in a case where a posterior no-loop operation has been performed this resection of the entire anastomosis is exceedingly difficult, often indeed impossible; and even in the cases where it is possible a modified anterior Roux operation in "Y" has usually to be performed after the resection, the making of a second posterior anastomosis being an impossibility.

The method of transgastric resection for such cases of jejunal ulcer was suggested by Moynihan [1] in 1912, but the operation was not performed by him previously to this operation, the notes of which are given below, nor are we aware of any other surgeon having recorded a similar case.

The patient, a male aged 47, had a history of abdominal trouble extending over seven years. At the commencement his only symptom was epigastric pain on kneeling, on leaning forward, in fact, after any movement which caused contraction of his recti abdominis. Gradually this pain became more severe, occurring at almost regular intervals, independently of movement, and accompanied by flatulence and hyperacidity. The pain was of the variety known as "hunger pain," commencing from two to three hours after meals, and being relieved by lying down or taking food. There was never any vomiting. The site of the pain was above and to the right of the umbilicus. At first this pain was only felt at intervals; gradually, however, the intervals became shorter and the periods of pain longer. After three and a half years of this the patient had a sudden attack of severe abdominal pain in the right hypochondrium, which was diagnosed as a subacute perforation; from this attack he recovered without operation. In January, 1912, a posterior gastro-enterostomy was performed by another surgeon. The patient recovered from this operation, and his symptoms subsided only to return about eight months later. The pain after this was lower in the abdomen and more to the left than previously, and was really the only symptom he had; but this pain was severe in character, and for the last few weeks before admission to the nursing home almost constant in duration.

Dr. L. A. Rowden's X ray report was as follows:—"The bismuth feed passes freely through the œsophagus. The stomach is not dilated. The outline is regular except for an indentation about the middle of the greater curvature. Peristalsis is seen, but it is not excessive. The gastro-enterostomy opening is patent; as far as I can judge about two-thirds of the food passes through it and about one-third through the pylorus. The stomach is empty two hours after the meal. No food lodges in the duodenum nor is there any duodenal kinking. The small intestine is empty in 12 hours. No stasis. No ileal kink. In 24 hours almost all the bismuth has been passed per rectum. I have seen no abnormality in the large intestine. There is no X ray evidence of calculus in either kidney, in the ureters, or in the bladder."

On Jan. 7th, 1914, the abdomen was reopened by Sir Berkeley Moynihan and the notes which follow are by Dr. Tatlow, who assisted at the operation. The scar of the previous operation was excised and for the deeper portions of the incision Crile's anæsthesia was adopted. The transverse colon, which presented in the wound, was markedly hypertrophied and distended and also kinked in a very curious fashion—its middle



Transgastric excision of a gastro-jejunal ulcer following gastro-enterostomy.

portion being adherent to the under surface of the left lobe of the liver and to the diaphragm. Before the stomach could be examined it was necessary to separate the adhesions fixing the colon in this unusual position. This separation was exceedingly difficult owing to the inaccessibility of the parts. The stomach itself was normal in outline, but there was a scar of an old ulcer on the anterior surface of the first stage of the duodenum. The anastomosis which had been performed was a posterior, vertical, no-loop gastro-enterostomy. The stoma was of adequate size and in the correct position. On feeling the stoma with the finger a

[1] Duodenal Ulcer, 1912, p. 204.

hard nodule the size of a shilling, with a dimple in its centre, could be detected. This nodule, which was thought to be a gastro-jejunal ulcer, could be clearly palpated through the anterior wall of the stomach. In view of the technical perfectness of the original operation and the consequent difficulty of a local resection (posterior) it was decided that a transgastric excision of the ulcer would be a safer operation than an excision of the entire anastomosis. Accordingly, while the assistant passed two fingers, one on either side of the jejunal loop so as to grip the ulcer, a longitudinal incision was made through the anterior wall of the stomach parallel to the curvatures and midway between them. On opening the stomach the posterior wall was everted through the incision, thus bringing the gastro-jejunal ulcer into view. The ulcer was almost entirely gastric, being just on the edge of the stoma. On opening the stomach a piece of silk (? or linen thread) was found hanging loose from the region of the ulcer. Excision was performed with scissors, and the opening made in the posterior wall of the stomach closed with through-and-through sutures passed from the mucosa. The anterior incision was then closed, leaving only room for a No. 14 rubber catheter, which was passed into the stomach and along the efferent jejunal loop. After the closure of the anterior incision a few interrupted Lembert sutures were passed posteriorly in the region of the original anastomosis to make things quite snug; the abdomen was then closed, leaving the catheter *in situ*. The patient was given four ounces of peptonised milk through the gastrostomy tube before leaving the table.

The patient made an uneventful recovery from this operation. On the twenty-first day the gastrostostomy (or gastro-jejunostomy) tube was removed and feeding by the mouth commenced. Ten days later the patient left the nursing home in excellent health and enjoying a light white meat diet.

Leeds.

THE TECHNIQUE OF THE WASSERMANN REACTION,

WITH SPECIAL REFERENCE TO THE USE OF ANTIGENS CONTAINING CHOLESTERIN.

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THE Wassermann reaction has now come to occupy a recognised place as one of the most accurate diagnostic methods available in medicine. But this estimate of its value can be substantiated only when the test is carried out under adequately controlled conditions. Hence, any contribution to our knowledge of the reaction which will lead to an increase in delicacy and precision must be welcomed. A great variety of procedures have been introduced, each making more or less serious claim to be an improvement on or a simplification of the original reaction. Certain methods are admitted to yield too high a percentage of positives, and these to any logical mind must be completely disregarded so far as their employment for diagnostic purposes is concerned; it is obvious that any form of the test which is liable to return positive reactions in cases which are not syphilitic is useless for diagnosis, however valuable such a method may be as an indication for the continuance of treatment in known cases of syphilis.

It is unnecessary to enter here into a discussion of the nature of the reaction, since nothing is accurately known concerning this question beyond the fundamental fact that a mixture of syphilitic serum and an emulsion of certain so-called "lipoid" constituents of animal tissues (the syphilitic "antigen") has the property of abolishing the complementing action of serum (from the guinea-pig), whereas a mixture of normal serum with the same "lipoid" emulsion possesses this action on complement to a much smaller degree. It is to be noted that, so far as we are aware at present, there is no qualitative difference between normal and syphilitic sera in their behaviour in the Wassermann test, but merely a quantitative difference. Such being the case, it is obvious that the limit of reacting power which differentiates a positive serum from a negative one must be arbitrary, and requires to be fixed by experiment for any given combination of "antigen" and serum. The standard is determined by examining a large number of sera from conditions which are known to yield positive reactions in most cases—e.g., general paralysis or secondary syphilis, and also sera from known non-syphilitics. When the results have been obtained in an extensive series of tests of this kind it is then possible to fix the limit of reacting power which a serum must reach in order to be counted positive, or below which a serum must fall in order to be recorded as negative. The validity of this method of fixing the criterion of the reaction is determined by the fact that sera from a known syphilitic condition such as general paralysis or cases in the secondary stage present all degrees of reacting power, and there is no necessary correlation between the clinical severity of the syphilitic infection in two cases and the grade of positiveness of their sera. Thus, Muir aptly says: "There will accordingly always be a certain proportion of cases which are almost positive, as well as those which are clearly so," and it is only by carrying out the reaction under strictly quantitative conditions, where the amount of complement (estimated in hæmolytic doses) which is absorbed by a given mixture of serum and of "antigen" is measured and controlled by comparison with the amounts fixed by each reagent separately, that conclusive results can be obtained.

Any method of carrying out the Wassermann test which is to be satisfactory must detect the greatest possible proportion of syphilitics, and at the same time must not include as positive any non-syphilitic sera. It is probable that a variety of procedures have been devised by different conscientious workers so as to fulfil those requirements. A method of carrying out the test described originally by Browning, Cruickshank, and McKenzie[1] has been extensively employed by nearly a dozen different workers in connexion with the Pathological Laboratory of the University and Western Infirmary, Glasgow, during the past three years, and the investigation of upwards of 3000 cases has yielded important clinical results, a *résumé* of which was recently published by me.[2]

One feature of our method of carrying out the test depends on the use of an "antigen" containing ox-liver "lecithin" along with cholesterin. The remarkable effect of cholesterin in increasing the action of "lecithin" as syphilitic "antigen" was first of all drawn attention to by Browning, Cruickshank, and McKenzie, and has since been confirmed by Sachs,[3] McIntosh and Fildes,[4] Walker and Swift,[5] and others, and "antigens" containing

cholesterin have now come into very general use. Before our procedure was employed here for routine diagnostic purposes Gilmour[6] established the reliability of the method by the examination of 150 sera, about half of which were from cases of general paralysis, employing the lecithin-cholesterin "antigen" simultaneously in parallel series with a crude alcoholic tissue extract. The reliability and delicacy of the method has also been confirmed by Miss Muirhead,[7] and recently Watson (*v.* Browning[2]) has again confirmed the accuracy of the method by a very critical and extensive examination. In view of the great mass of evidence in support of the value of "antigens" containing cholesterin it is surprising that Thiele and Embleton[8] have recently come to the conclusion that "the use of cholesterin ..... in antigens for the Wassermann reaction is not only unnecessary but introduces a very serious source of error." Such a statement cannot at the present time be allowed to pass unchallenged, since if it were correct it would discredit the value of all the work done by such methods.

Thiele and Embleton have entered in some detail into the conditions under which a suitable antigen is obtained from tissues, and they conclude that "the antigenic value of an antigen depends on the degree of autolytic degradation that it has undergone before extraction." This may be taken as correct; Citron,[9] writing in 1909, considered that the extract of syphilitic liver was enhanced in efficiency if autolysis had occurred beforehand, and Browning and McKenzie[10] record their observation regarding a congenital syphilitic liver containing spirochætes, but without any fatty or autolytic change. They found that this syphilitic fœtal liver yielded an extract in no way superior in its action as syphilitic "antigen" to that from a normal guinea-pig's liver. In the case of normal tissues Cruickshank (*v.* Browning and McKenzie[10]) found that, in general, organs which had undergone aseptic autolysis yielded extracts which had a very powerful antigenic action, but the extracts of such autolysed tissues by themselves exert an active hæmolytic and anticomplementary effect, so that their use may be attended by numerous disadvantages (*v.* Browning and McKenzie[10]) which render them of little value practically.

The action of "purified" phosphatids as syphilitic antigens has been recently investigated by Thiele and Embleton, who state that "all the phosphatids can act as good antigens provided they are extracted from suitably autolysed tissues." In this connexion it must be remembered that the preparation of a *pure* phosphatid is a matter of remarkable difficulty, as especially Cruickshank[12] and MacLean[13] have shown, and there is some reason for doubting whether a pure phosphatid has ever been prepared. Investigating the action of "lecithins" (so-called N_1P_1 phosphatids) prepared under precisely comparable conditions from various tissues in the normal fresh state, Browning, Cruickshank, and Gilmour,[14] however, have shown that the action as syphilitic antigen depends to a very great extent on the particular tissue from which the phosphatid is derived; thus the product from egg yolk has only a weak action, that from heart is extremely powerful, while liver yields a substance of intermediate activity.

With regard to the effect of cholesterin in an antigen, it must be remembered that practically all tissues contain this substance, and in the liver in cases of congenital syphilis Pighini[11] has found that cholesterin is often present in excess. Thiele and Embleton, however, do not appear to object to the use of extracts of congenital syphilitic liver as antigen.

Cholesterin itself has a marked anticomplement action as Pighini[11] and Iscovesco[15] have shown. Browning and Cruickshank[16] found that on adding a watery colloidal solution of cholesterin to human serum the mixture sometimes exhibited a greater inhibitory action towards complement than did the cholesterin solution by itself; this is the phenomenon to which, apparently, Thiele and Embleton have now applied the term "anticomplementary adjuvant phenomenon," but occasionally serum has the opposite effect and diminishes the anticomplement action of the cholesterin. Browning and Cruickshank recognised that the action on complement of a mixture of serum with cholesterin alone was irregular and possessed no diagnostic significance as regards syphilis.

The action of cholesterin along with "lecithin" is quite different, however. When an alcoholic mixture of "lecithin" and cholesterin is emulsified with physiological salt solution in such a fashion as to give a turbid suspension (*v.* Browning and McKenzie[10]), it is found that the anticomplement effect of the cholesterin is abolished; such a suspension has, in fact, practically no more inhibitory action on complement than a similar emulsion of the same "lecithin" by itself. The striking fact, however, emerges that the lecithin-cholesterin emulsion along with syphilitic serum absorbs more complement than does the mixture of serum and lecithin in the absence of cholesterin. Further, this effect of cholesterin in increasing the amount of complement absorbed by serum occurs only when the serum is syphilitic. Obviously, we are not here dealing with a mere summation of effects; hence this phenomenon serves as a specific indication that the serum under examination is syphilitic. Especially in the case of weakly positive sera, this reaction constitutes a valuable addition to the ordinary criterion for detecting a positive reaction (i.e., measuring the number of doses of complement absorbed by the mixture of serum and "antigen" as compared with the sum of the amounts inhibited by each constituent separately). An example, one of many hundred similar experiments, is appended (see p. 742) in confirmation of previous results.

In view of these facts the statement of Thiele and Embleton that "cholesterin merely magnifies any anticomplementary effect whether already present or induced by the Wassermann reaction," either possesses no exact meaning whatever, or, if it is intended to convey the impression that cholesterin merely produces an increased anticomplement effect in every instance, then the authors are demonstrably wrong so far as the conditions are concerned under which we have employed cholesterin in the Wassermann reaction.

There is a grave error into which a certain attitude of mind leads some observers; they generalise from the results of a single type of experiment, and without hesitation condemn a long series of carefully planned and adequately controlled observations. A comprehensive knowledge of experimental work in the domain of immunity should guard against such rash generalisation. As an example of the necessity for avoiding generalisation I would quote the following example: Thiele and Embleton find that the delicacy of the Wassermann reaction is increased in their hands when they use large amounts, half a cubic centimetre or more

Table illustrating the Effect of Antigens containing Cholesterin.

Serum (55° C. for ½ hour) 0·05 c.c.	Turbid emulsion of antigen 0·6 c.c. (a) Ox-liver lecithin 0·75 per cent. in absolute alcohol, 1 part emulsified with saline 7 parts. (b) Ox-liver lecithin 0·75 per cent. + cholesterin 1 per cent. in absolute alcohol, 1 part emulsified with saline 7 parts.	Doses of guinea-pig's complement.				
		3½	5	8	11	16
A.—Medium strength positive serum.	(a) + Lecithin.	Trace.	Very marked.	Almost complete.	—	—
	(b) + Lecithin-cholesterin.	0	0	0	Faint trace.	Almost complete.
B.—Powerful positive serum.	(a) + Lecithin.	0	0	Trace.	—	—
	(b) + Lecithin-cholesterin.	0	0	0	0	0
C.—Negative serum.	(a) + Lecithin.	Just complete.	Complete.	Complete.	—	—
	(b) + Lecithin-cholesterin.	,, ,,	,,	,,	Complete.	Complete.

Controls—

Emulsions alone, 0·6 c.c.: (a) Lecithin + 3 doses of complement = just complete. (b) Lecithin-cholesterin + 3 ,, ,, = ,, ,,

Sera alone 0·05 c.c. + 0·6 c.c. saline: Serum A + 1½ ,, ,, = complete. ,, B + 1½ ,, ,, = ,, ,, ,, C + 1½ ,, ,, = almost complete.

Dose of complement = 0·015 c.c.

Note.—The results indicate the amount of hæmolysis of 1 c.c. 5 per cent. washed ox-blood suspension sensitised with 5 doses of immune body from the rabbit.

of inactivated syphilitic serum. Now, Gilmour, working according to the method of Browning, Cruickshank, and McKenzie (*v.* Browning and McKenzie,[10] p. 84), found that there were very definite disadvantages attendant on the use of such large amounts of serum, among which may be mentioned the marked inhibitory effect of such a quantity of heated serum by itself on complement.

To sum up. Accuracy and delicacy in performing the Wassermann reaction may be attained by attention to the following points:—

1. The accurate measurement of the amount of complement absorbed by the mixture of (heated) serum and of antigen, estimated in hæmolytic doses, and controlled by an estimation of the amount of complement inhibited by each component separately. To effect these estimations requires for each serum six or seven tubes in addition to three tubes to control the action of the lipoid emulsion. Such a procedure enables the observer to place the greatest confidence in his results, and it is to be regretted that some workers do not consider it worth their while as a routine practice to expend the time required to attain such accuracy.

2. No method can be satisfactory which neglects the fact that complement is not an invariable quantity. Not merely do different guinea-pigs yield serum with varying hæmolytic power for sensitised blood corpuscles, but the deviability of two complement-containing sera with the same hæmolytic dose may show a wide difference. Such differences in deviability of complement are observed both when sensitised ox and sheep corpuscles are used as the test. To control these variations known negative and positive sera, whose behaviour has been determined in previous tests, should be included in every series. An average specimen of complement can be obtained with some degree of certainty by using the pooled serum of several guinea-pigs. Recently we have employed the pooled sera of 10 or 12 animals, separated by centrifuging the switched blood immediately after withdrawal, and pipetting off the mixed serum into a series of small bottles which are then placed in a refrigerator and the contents kept frozen hard at minus 12° C. The serum required for a test is allowed to thaw and is then kept in the ice chest for about 16 hours before use. We have found that under these conditions the hæmolytic power and the deviability of serum remain practically unaltered for at least six weeks. This procedure seems to offer the best method for preserving for a considerable length of time a standard specimen of complement (Browning and Mackie[17]).

3. The test corpuscles should be sensitised to the maximal degree by the addition of at least five doses of specific immune serum (from the rabbit). In this way disturbances due to variations in the normal immune body content of the patient's serum or the complement-containing serum can be obviated.

4. The "antigen" should by itself possess little hæmolytic or anticomplement action, a point which Browning and McKenzie emphasise.[10] Antigens which are highly satisfactory in these and in other respects can be obtained by employing alcoholic mixtures of cholesterin with certain other tissue lipoids. The antigenic property of many lipoid tissue constituents—e.g., "lecithin" from heart and liver, crude alcoholic extracts of heart, &c.—can be increased by the addition of cholesterin to the alcoholic solution. In the case of "lecithin" from ox liver, personal experience has shown that the addition of cholesterin increases the power of the lipoid emulsion to lead to complement-fixation along with syphilitic serum. Along with normal serum, on the other hand, no such increase occurs, and at the same time the cholesterin does not increase the anticomplement effect of the lipoid emulsion by itself. Accordingly, cholesterin possesses a remarkable specific action in the presence of syphilitic sera together with certain tissue lipoids; this effect of cholesterin has proved of great practical value in eliciting the Wassermann reaction.

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Glasgow.

POPLITEAL ANEURYSM.

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POPLITEAL aneurysm, which 30 years ago was so frequently seen in our hospital wards, and the treatment of which by digital compression—the method then much in vogue—has left a lasting impression, is now comparatively a rare disease. A considerable revival of interest in the treatment of this lesion has been aroused by the introduction by Matas of his methods of dealing with the sac, which have been fully discussed recently in the Surgical Sections of the International Medical Congress and of the Royal Society of Medicine.

Whatever may be the method of treatment selected, the aim and object is the obliteration of the sac. Matas secures this obliteration by opening the sac and suturing from within the main vessels and the smaller feeding ones, afterwards suturing and doubling up the sac wall, or he adopts his more conservative measures devised to preserve the lumen of the vessel, at the same time obliterating the sac. These procedures, brilliant and successful as they have proved, will in dealing with popliteal aneurysm not easily supplant the older highly tried methods, and probably will have a more limited application. The Hunterian operation, with its simplicity of technique and very small percentage of permanent recurrent pulsation, will with many still hold the field. In those doubtful cases of threatened gangrene or with local inflammation about the sac, ligature, whatever may be the outcome, would probably without doubt still seem the best method to adopt.

The first case described below illustrates what that success may be under such unpromising conditions as were there present—a large sac, ill defined, with local inflammation and effusion into the knee-joint, and œdema of the leg below. There seemed so strong a probability of gangrene ensuing that amputation was seriously considered, which the patient, a man of fine physique, would not agree to. After consultation with my colleague, Mr. C. A. Ballance, it was decided to ligature the vessel and afterwards to deal locally with the aneurysm should success be attained, which fortunately was the sequel.

The second case is an example of the ideal and most certain method of obliterating the sac by excision, a procedure limited by the size of the aneurysm and the condition of the surrounding tissues. Exception has been taken to its employment for popliteal aneurysm because of the likelihood of damaging a possible adherent popliteal vein or the anastomosing vessels. If the aneurysmal sac is of moderate size and apparently well defined, these difficulties may be non-existent or surmounted. For such cases this radical procedure has a place and may be used successfully.

CASE 1. *Left popliteal aneurysm; fluid in the joint; ligature of the superficial artery at the apex of Scarpa's triangle; later incision into the sac and removal of clot; recovery.*—The patient, a South African negro, aged 26, was admitted under me on Oct. 7th, 1911. Towards the end of 1909 he had tingling pain in the popliteal space, but of this he did not take very much notice. In October, 1910, he first noticed a lump here; this was thought to be due to rheumatism and he had massage. The swelling, however, gradually increased in size, and there was difficulty in straightening the leg and in walking about; owing to the severe pain for several weeks before, he sought admission. There was no history of syphilis, but thickening of the tibiæ strongly suggested it. In the left popliteal space was a very prominent pulsating swelling, the pulsation in which was effectually stopped by compressing the femoral. The leg below was generally swollen and the surface veins distended; there was some œdema around the ankle and also over the back of the knee-joint. The knee-joint contained fluid, and there was very limited extension of the leg; there was some dropping of the foot, and on inquiry his pain had been particularly referred to the external popliteal nerve area; there were also several large scars, not very deep, in the middle of the leg on the outer side. The heart and arteries were healthy. Over the most prominent part of the swelling the measurement was 19 inches; 6 inches above the knee 17 inches; and over the middle of the calf 15 inches.

The unsatisfactory condition of the limb raised considerable doubt as to the likelihood of saving it. The embarrassed return circulation and swelling behind the knee pointed to the strong probability of gangrene occurring should any other treatment but amputation be attempted. It was decided, however, to try to save the limb, so the superficial femoral artery was ligatured at the apex of Scarpa's triangle on Oct. 13th. After ligation in two places and dividing the vessel between it was noticed that there was little, if any, reduction in size of the aneurysm. On the next morning (14th) the limb was fairly warm, but no definite pulsation could be felt in the tibials; the patient complained of cramps. On the 16th the collateral circulation was well established; the limb was warm, and faint pulsation could be felt in the tibials, but the size of the aneurysm was not appreciably reduced, measuring 18½ inches. The subsequent progress may be summed up as follows. There was complete restoration of the circulation in the tibials and loss of the fluid in the joint, so that all bone outlines were distinct, but the aneurysm remained of the same solidity and size. The pressure effect on the external popliteal nerve, as shown by foot-drop and wasted muscles, became more definite, and massage and galvanism were used. On Dec. 5th the measurement, made as before, was reduced to 17 inches, but this could be partly or wholly explained by the absorption of the fluid in the joint. The aneurysm was for the most part quite firm, but on its outer side there was a fluid collection. The man then wished for his discharge, but continued to attend as an out-patient for massage and galvanism.

The patient was readmitted on Jan. 16th, 1912, with the aneurysm of the same size and consistency and without pulsation. There were still the signs of involvement of the external popliteal nerve with rather more anæsthesia; the foot was more pointed from contraction of the calf muscles. On Jan. 31st I made a vertical incision down on the sac and very easily exposed it. It was then freely opened and a large quantity of both laminated and dark clot was removed and the sac completely emptied. There was no bleeding from the sac wall, so after washing it out with saline the wall was doubled down as well as possible and stitched with catgut, thus greatly reducing the empty space. Primary union took place, and this was soon followed by a marked reduction in the sensory loss in the leg, which became localised in two patches, the size of a half-crown, on the outer side of the leg and foot. The movements at the knee became more free, and it was then noticed that limitation in extension was due to some dropping back of the tibia, the result of softening of the crucial ligaments brought about by the pressure of the aneurysm on the back of the knee-joint which had been also shown by the synovial effusion. Massage and galvanism were continued, but as the ankle-joint movements remained very limited the joint was first wrenched under gas; as this did not result in much improvement the tendo Achillis was subsequently divided. Further exercises gave a much better range of movement at both knee- and ankle-joints, and the man when last seen had a quite useful limb.

CASE 2. *Left popliteal aneurysm; excision of the sac.*—The patient, aged 46, was admitted under me on July 15th, 1909. There was no history of syphilis and no evidence of cardiac or arterial disease; he had had rheumatic fever 20 years before. His general health had always been good, but latterly he had felt weak. Six months before he first felt pain in the left knee with pain shooting down the outer side of the leg; the pains continued, and during the

last fortnight they became so severe that he sought relief at the hospital. On examination there was some enlargement of veins over the front of the leg, but no œdema of the foot. There was a well-marked pulsating swelling at the back of the knee, more in the lower half of the popliteal space than the upper; it was about the size of an orange and caused some bulging backwards and measured vertically about 2½ inches. The pulsation in the sac was easily controlled by compressing the femoral, and the swelling was almost obliterated. The pulsation in both tibials was strong and not appreciably diminished. He could not completely straighten his leg.

On July 23rd I removed the aneurysm. An incision 6 inches long was made in the line of the vessel from the inner side above to the mid line below. There was practically no matting of tissues; the sac was limited and well defined, and the vessel above and below appeared healthy. It was an ideal case for local treatment, but the point debated was should this be complete removal or one of the methods of treatment of the sac advocated by Matas. In view of the favourable local conditions expressed before I decided on excision of the sac. The sac was placed between the heads of the gastrocnemius with the vein a little adherent to its posterior wall, but it was easily separated. The artery supplying the sac was to the inner side and deep to the vein, but there was an upper additional head of the gastrocnemius between them with a bundle of fibres of the latter again between the artery and the bone; it was immediately after passing through this slip that the artery started to dilate. The artery was ligatured with silk above this extra slip and again 1 inch below the sac. The sac was easily shelled out from the surrounding tissues, one feeding vessel on its anterior or deep aspect having to be tied. The dilatation was a saccular one, and the vessel wall was resilient and apparently normal. There was no inconvenience from hæmorrhage nor did the nerves interfere with the removal of the sac. The cut fascia was stitched up with catgut and the wound sutured without drainage. Except for slight serous oozing from the lower part of the wound union was by first intention and general progress was uneventful. Although at first the pulsation in the tibials was lost the foot always kept warm and the pulsation was soon restored.

The specimen from Case 2 is preserved in the hospital museum, 1706 A, and bears the following description: "A popliteal aneurysm, 1¾ inches in length, with portion of the artery, from one side of which it arises. The clot filling the sac is without lamination and of recent formation, and is due to coagulation occurring within the sac after the ligature of the vessel on either side preparatory to the excision of the aneurysm." It will be agreed, I think, from the foregoing description that the case was one most favourable for local treatment. Whether a more conservative operation on the lines laid down by Matas would have been equally satisfactory must remain undetermined; the freedom from matting of the sac to surrounding parts certainly warranted the more radical procedure.

Upper Wimpole-street, W.

DÜSSELDORF ACADEMY OF PRACTICAL MEDICINE.—Later in the year the following courses for practical medicine will be held at Düsseldorf. 1. A general post-graduate course, together with a course for medical officers to railways and mines (May 4th to 16th). 2. A fortnightly course of social medicine, treatment of accidents, and prognosis of invalidity (July 6th to 18th). 3. As in previous years a course will be given upon the recent advances in practical surgery and gynæcology, consisting of lectures, operations, and demonstrations, with the coöperation of home and foreign surgeons and gynæcologists under the direction of Geh. Med. Rat Professor Dr. Witzel and Professor Dr. Pankow (the last week in September). 4. The Medical Clinic will give this year for the seventh time a course of pathology, diagnostics, and treatment of heart and vascular diseases under the direction of Geh. Med. Rat Professor Dr. Hoffmann (Oct. 19th to 27th).

THE "AMBULANT" TREATMENT OF FRACTURES WITH PLASTER-OF-PARIS AND FRACTURE CLAMPS.

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THE extension treatment of fractures of the lower limbs has the great disadvantage of keeping the patient in bed for weeks, while the treatment of these fractures with plaster-of-Paris only has often been productive of bad results, and experience has shown that this method has failed to prevent malposition of the fragments and has led to a shortening of the limbs. Moreover, plaster bandages immobilise the neighbouring joints and cause stiffness which in many cases is very difficult to cure.

In 1893 Eiselsberg, in order to prevent shortening of the limb, recommended applying a plaster-of-Paris bandage from the foot to the pelvis, then making a circular cut through the bandage at the level of the fracture, and extending the fragments by iron bands fitted with rubber springs. This fracture apparatus of Eiselsberg led Kaefer, in 1901, to the construction of his clamp, applied, in the case of fracture of the leg, to one side of the circularly divided plaster-of-Paris bandage.

As it is of the utmost importance that patients with fractures of the lower extremities should soon be able to get up and walk, in 1902 I applied the fracture clamp to both sides of the plaster-of-Paris bandage in case of shortened oblique fractures of the leg, thus enabling the patient quickly to obtain a firm and steady tread.

As the Kaefer clamps, however, allow the extension of the fragments in a longitudinal direction only and fail to obtain an accurate adaptation in lateral displacement, I connected the fastening wings with the extension bars by means of ball joints (Fig. 1). After the fragments have been drawn apart by turning the extension screws of the clamps, applied in the above-mentioned way (on both sides of the circularly divided plaster-of-Paris bandage), the fragments can be adapted most accurately after loosening the screws of the ball joints, and then they can be fixed in the desired position till union is complete.

Experience has shown that the clamps are best applied as soon as possible after the accident, the extension and adaptation succeeding easily when the muscles are still flaccid.

In case of an oblique fracture of the tibia and fibula, combined with displacement of the fragments, the fracture should be radiographed as soon as possible and the clamps adapted in the following way. The knee of the patient is flexed to a right angle and an elastic stocking placed over the leg, from the toes up to the knee. Pads consisting of flat "factis" (pulverised rubber) cushions are tightly fastened underneath the patella and round the ankles (Fig. 2). Over these is placed (the knee of the patient still being bent to a right angle) a fairly thin plaster-of-Paris mould, from the toes right up to the knee, but not covering the latter.

As soon as this has hardened the plaster is cut right through circularly at the level of the fracture, and then both wings of the clamps are fastened by means of plaster-of-Paris bandages (symmetrically on both sides of the leg, inside and outside) on the plaster-of-Paris mould, so that the extension screws of both clamps are on a level with the circular slit

of the plaster dressing (Fig. 3). The clamps now serve as supporting splints for the circularly divided plaster-of-Paris dressing. The patient remains in bed (the knee still kept bent at a right angle). On the following day, with the leg in the same position, extension is commenced by turning the extension screws, and, under the protection of the "factis" cushions, it may be proceeded with so energetically that after a short time the gap between the upper and lower part of the dressing will measure an inch or two.

FIG. 1.

The fastening wings connected to the extension bars, the segments of which are numbered, by ball-joints.

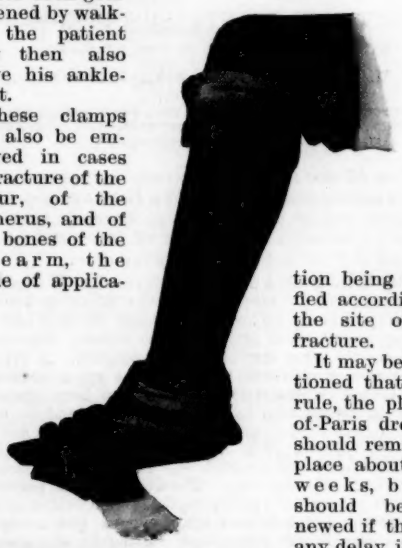
When the Roentgen rays examination shows the shortening of the limb to have been corrected it is necessary to try to bring the lower, and usually outward pointing, fragments in apposition to the upper ones and into their normal position; this is brought about by loosening all four ball-joints of both clamps, so that the lower part of the plaster-of-Paris dressing (and accordingly the lower fragments) become movable in all directions. At the same time any abnormal rotation of the foot should be corrected. In order to do this great care has to be taken that the knee part of the plaster-of-Paris dressing is firmly held in position by an attendant, and as soon as the lower part of the plaster dressing has been brought into the desired position the four ball-joints are quickly and tightly fixed, and the correct position thereby made permanent. The pair of clamps, which before formed a square, now form a parallelogram.

If a further Roentgen examination proves the fragments to be in their proper position, the patient may get up and walk about by the aid of crutches or sticks, the steel clamps being reliable supports. (The extension screws may be suitably fixed by inserting into their holes an elastic steel spring.) Should, however, the Roentgen rays reveal that the lateral displacement of the lower fragments is not sufficiently corrected the four ball-joint screws will once more have to be loosened, the lower fragments put in their proper position by greater pressure, and the screws fixed again firmly and quickly.

In difficult cases I use a contrivance consisting of a small round rubber cushion ("pelotte") and a connecting screw, with a fork attachment. The pelotte is placed against the sleeve of the clamp, and by turning the screw of this little instrument a firm lateral pressure is applied, and the fragment driven in the desired direction.

The plaster-of-Paris mould does not cover the knee so that that joint may be moved, and as the sole part of the plaster soon gets softened by walking the patient may then also move his ankle-joint.

FIG. 2.



Oblique fracture of tibia and fibula: application of pads.

These clamps can also be employed in cases of fracture of the femur, of the humerus, and of the bones of the forearm, the mode of application being modified according to the site of the fracture.

It may be mentioned that, as a rule, the plaster-of-Paris dressing should remain in place about four weeks, but it should be renewed if there is any delay in formation of callus, but by no means should it be removed before the fracture has become so thoroughly consolidated that a fresh displacement is rendered impossible.

In summing up, it may be stated that the clamps have been used with great success in nearly all forms of fractures, including compound fractures, and they can therefore be recommended as universal fracture clamps. In many cases they may be further used with great advantage for extending and mobilising stiffened joints. If the fracture clamps are applied shortly after the accident, in the manner described above, the pain of the patient is relatively insignificant, especially since "factis" cushions have been employed in the treatment, as these mitigate the pressure of the plaster-of-Paris dressing.

FIG. 3.

Oblique fracture of tibia and fibula: the clamps in position.

I recommend very moderate extension to begin with, by slow turning of the extension screws; it should go on uniformly and slowly, stopping at once when the patient complains of pressure, in the case of a fracture of the leg, at the knee or foot. It seems that the extension causes hardly any pain at the seat of the fracture, and by this cautious way of proceeding one is fairly sure to avoid gangrene even at those spots where the skin is the only covering of the underlying bone.

It is hardly necessary to lay any stress on the fact that in cases of fracture of the bones of the leg the patient as a rule may get up and walk

about in the course of the second week after the accident, and sometimes even earlier.

The appliances are made at the Veifa works, Frankfort/a/Main, and can be obtained through all surgical instrument makers.

Wiesbaden.

RECURRENT INTUSSUSCEPTION:

WITH SUGGESTIONS AS TO THE ETIOLOGY.

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IN view of the rarity of recurrent intussusception recently commented upon in THE LANCET, and after reading the report of Mr. G. Grey Turner's interesting case,[1] I thought it might be of interest to place on record the notes of the following case.

On May 25th, 1909, a male child, 2 years and 1 month of age, was brought to hospital with the following history. Two hours previously he had a screaming fit, and half an hour later passed blood and mucus per rectum. The child vomited shortly after arriving at the hospital. A typical sausage-shaped mass could be felt in the upper abdomen. On two occasions previously this child had been operated upon for intussusception by another surgeon, and on each occasion recovery was uneventful. The details are as follows. In March, 1908, laparotomy revealed a typical ileo-colic intussusception which was reduced, the abdomen being closed in the usual way. The wound healed perfectly and convalescence was uninterrupted. In October of the same year the abdomen was again opened, and an intussusception was found which had started at the cæcum. Reduction was effected as on the first occasion, and again recovery ensued. On this occasion, however, the mobile cæcum was fixed by sutures.

In May, 1909, I opened the abdomen under spinal anæsthesia and reduced the intussusception, which on this, the third, occasion was enteric in type and was situated some little distance from the ileo-cæcal valve. Under spinal anæsthesia intestinal peristalsis continues unhampered by the inhibitory stimulus of the operation, and during the examination of the intestine an intussusception started, *for the fourth time*, in a coil of gut in my hand. Nothing abnormal was discovered in the abdomen which could account for the tendency in this child for intussusception to develop. Recovery was again uninterrupted, doubtless owing to the promptness with which the mother, by this time well acquainted with the symptoms, sought surgical aid.

The great interest of this case lies in the fact that on each occasion the intussusception started at a different part of the intestine. And this seems to me to raise again the question as to the etiology of the condition. In Mr. Grey Turner's case the intussusception started at the lower end of the ileum on each occasion, and he found a definite lesion to account for the tendency to recurrence. In my case no such explanation could be discovered; in fact, the recurrence seemed quite inexplicable.

Presupposing that infants (in whom the mesentery is exceedingly elastic and pliable), and subjects who have a congenitally long mesentery, are liable to develop intussusception, we are still left with the task of finding an exciting cause. Irregular peristalsis has been quoted as a factor; and this may, perhaps, be of some importance in cases where a persistent Meckel's diverticulum is present to interrupt normal peristalsis. On other occasions an inverted diverticulum, acting as a polyp, may be responsible, as in one of my cases already reported.[2] Such cases, however, are rare.

FitzWilliam has shown, in a statistical review of 1000 cases, that *diet* is certainly the most important causative factor in the majority of cases. Whereas errors in diet usually cause enteritis, it is not difficult to believe that wrong feeding in infancy, not sufficiently gross to set up acute enteritis (inflammation of the mucous membrane), may yet cause chronic inflammation of Peyer's patches. Finally, a glaring error of diet causes acute congestion and swelling of this lymphoid tissue, which bulges into the lumen of the gut; such a swelling would act in the same way as a polyp, and intestinal peristalsis would tend to drive it along the canal with the intestinal contents. Where the mesentery is elastic or unusually long, an intussusception would be likely to result.

Such a view is supported, perhaps, by the uniform presence of a mass of enlarged mesenteric glands in the neighbourhood when the intussusception starts at the lower end of the ileum. These glands seem to be enlarged whether the abdomen is opened soon after the onset no less than when there has been considerable delay. Further, glandular enlargement is not a feature to anything like the same extent, I think, in enteric intussusception. The inference seems to be that the glandular enlargement precedes the intussusception, and is caused by infection from the Peyer's patches. The frequency with which intussusception starts at the lower end of the ileum and the fact that *diet* is responsible in the majority of cases seem to support the following view. That inflammation and swelling of Peyer's patches (usually the result of errors of diet) are responsible for the onset of intussusceptions starting at the lower ileum; but that these factors leave unexplained the origin of intussusceptions starting at other situations in the intestinal tract.

I have recently shown[3] how general infections may cause intestinal colic; that both acute and chronic general infections might be responsible; and in that paper I quoted cases in support of the statements made. Without again entering into detail it seems reasonable to suppose that acute general infections, which may cause effusions in the skin and subcutaneous tissues and in other regions, may also be responsible for effusions into the intestinal wall. I suggested that such an effusion, by preventing the proper contraction of the intestinal muscle in its vicinity, creates an *inert area* in the bowel wall. The bowel wall being comparatively insensitive, there is no pain arising directly from such a lesion; but such an inert area constitutes, as it were, a "foreign body" in the intestinal wall; and this affected piece of bowel tends to be driven along the canal (with the intestinal contents) in the same manner as an intestinal polyp or the inflamed Peyer's patches already referred to. The result is that *during peristalsis* the mesentery is dragged on by the efforts to drive along this portion of bowel and typical *colicky pain* results. In acute rheumatism such an effusion sometimes reaches a size sufficiently large to rupture the mucous membrane, when hæmorrhage from the bowel results; the condition is then known as "Henoch's purpura." I have encountered a similar condition in diphtheria. The effort made by the muscular action of the intestine to drive along the canal such inert areas as I have described will, when anatomical conditions are propitious, actually invaginate the bowel wall at such a situation and *intussusception results*.

[1] THE LANCET, Dec. 20th, 1913, p. 1785; Jan. 17th, 1914, p. 169.
[2] Annals of Surgery, 1908.
[3] Practitioner, January, 1914.

The association of such inert areas with the onset of intussusception draws our attention to the relationship of this affection with acute general infections. And I wish to offer again the suggestion that *acute general infections* are often responsible for the onset of intussusceptions other than those starting at the lower ileum; and perhaps in some of these where error in diet (or other causes) can be excluded. Such a view explains the occurrence of intussusception in more than one member of a family—doubtless a fairly common experience. And this explanation is the one which I am inclined to offer for the recurrence in three different situations in the case I have just reported. I have seen the undoubted association between acute rheumatism and intussusception, and do not doubt the possibility of other infections playing a similar rôle.

The importance of realising such a cause of intussusception lies in the fact that, after treating the acute condition, we ought to make every effort to find and remove the cause. If there are enlarged glands in the mesentery, and the intussusception starts at the lower ileum, *diet* should be suspected as a cause. Careful inquiry may elicit an exciting cause; but, if not, a search should be made for evidence of a general infection. When the intussusception starts high up in the ileum the possibility of a persistent Meckel's diverticulum, or a solitary intestinal polyp (arising from the invagination of a diverticulum), should be borne in mind and looked for as an exciting cause. When these are absent, or when the intussusception starts in the cæcum, I believe the blame may often be laid at the door of an *acute general infection;* and the source of such an infection should be carefully sought and treated when the child has recovered.

Recently I operated in the following case for intussusception:—

The patient was a male child 10 months of age. The history was obtained that three days previously the child was feverish and the parents thought he had a sore throat. The medical attendant diagnosed a "feverish chill." On the day of admission to hospital a screaming attack preceded the passage of blood per rectum, and the child became *very drowsy*. Though there had been no vomiting retching had been noticed on one or two occasions. When the child was in the ward drowsiness was a marked feature of the case.

On examination of the abdomen a typical mass was felt in the left flank which made the diagnosis perfectly clear. *On examination of the neck* a large mass of enlarged discrete glands was found to be present on both sides, while inspection of the throat showed that the glandular enlargement was secondary to inflammation of the very large and reddened tonsils.

I expected to find an intussusception *starting in the cæcum* in this child; and, on opening the abdomen under spinal anæsthesia, this proved to be the case. There was no marked glandular enlargement such as is usually met with when the lower ileum forms the starting point.

Now I feel sure that the "feverish chill" owed its existence primarily to tonsillar infection, the cervical glands being secondarily enlarged; and that the resulting "general infection" was responsible for the onset of intussusception in a child whose large bowel was exceedingly mobile. In order to remove the source of infection in this case the tonsils should be completely dissected away by Waugh's method, and this I intend to do as soon as the child has completely recovered from the effects of the laparotomy. I do not believe there is any need to fix the cæcum as a preventive measure, since, if the primary cause remains untreated, recurrence may take place in some other situation (as in the case I have reported). Also, in these cases, no more should be done than is absolutely necessary. As long as the primary cause is treated, by medical or surgical measures according to the indications, not only will there be little chance of recurrence, but other undesirable consequences of an untreated general infection will also be avoided.

Harley-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A NOTE ON THE VALUE OF PITUITARY GLAND SUBSTANCE IN SOME CASES OF ASTHMA.

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EVERYONE is of course now familiar with the immediate success that generally attends the hypodermic administration of adrenalin or hemisine in paroxysms of true asthma; but unfortunately the gratification afforded by the production of the striking result is almost equalled by the disappointment due to its relative transience. It is, however, less well known that many patients who are benefited, during attacks, by the administration of the drug hypodermically will also obtain considerable advantage if the same drug is given by mouth regularly in tablet form.

I have employed it in this manner for weeks at a time with advantage and, so far as I have been able to ascertain, without detriment. It is true that many observers, on the strength of experimental findings, fear the development of arterio-sclerosis as a result of the long-continued use of suprarenal derivatives; yet on the whole it is a safe clinical maxim that the exhibition of drugs which supply a physiological need is not attended, if properly given, by the unpleasant consequences that may follow their experimental use when not indicated therapeutically. Recently, however, it occurred to me that it might be worth while, for obvious physiological reasons, ascertaining the effect of pituitary substance, if given regularly, in cases of asthma. For the last six months, therefore, I have treated a certain number of adult patients that I have seen suffering from asthma with two-grain tablets of pituitary gland substance, taken each night and morning. About 20 such patients have been so treated, and the results seem worthy of report.

Without exception each one of the patients so treated has expressed himself or herself as greatly benefited; the attacks have been far fewer and less severe, while the general health has in most cases improved considerably. Two points are rather striking. The majority of the patients so treated have ceased to ask for their accustomed stramonium powder for burning and inhalation; and of those who, feeling as they have said much better for the tablets, ceased regular attendance, every one has come back asking for more, as being not so well without them.

I have not yet given the preparation to any children with asthma, for in children the use of other remedies is generally so satisfactory. But some

children may perhaps be benefited by it in more ways than one. Most of the patients treated have reported that they pass more urine and that the bowels act more regularly when the tablets are taken, and in no case has there been any unpleasant or undesirable symptom. Some of the patients have continued taking their accustomed stramonium and lobelia mixtures whilst given the pituitary gland; others, principally those with considerable attendant catarrh, have been given small doses of paraldehyde and iodide of potassium three or four times a day. Some have been given no drug save the pituitary substance.

There is no doubt in my mind at all but that the continued administration of pituitary gland substance is of marked benefit in many cases of asthma, is without apparent drawback, and renders the occurrence of severe paroxysms, requiring adrenalin or hemisine, quite infrequent. The cases selected by me for this treatment have been inveterate habitués of the out-patient department who have suffered for years and have not hitherto been often without paroxysms or distress for more than a day or so at a time.

Wimpole-street, W.

A CASE OF FOREIGN BODY WITH MISLEADING HISTORY.

BY R. L. WASON, M.R.C.S.ENG., L.R.C.P.LOND.,
SURGEON, R.M.S. "NORMAN."

THE patient, a deck-boy, consulted me on Jan. 13th last on account of pain and swelling of the forearm. Four days previously he had slipped down and severely bruised the right forearm, but he had not left off work or had advice about it. That morning, however, he woke at 3.30 with acute pain over the site of the bruise. When I saw him at 9.30 A.M. the arm from the elbow to the roots of the fingers was inflamed and considerably swollen. On examination a lump about two inches long could be felt, in close relation to the radius if not actually on the bone itself, and very painful when touched. The boy said this was the exact site of the bruise and I feared some damage to the bone. The arm was fomented with a lotion of lead and opium, and in two days the swelling and inflammation had disappeared, but the lump still persisted.

Whilst on the African coast I examined the arm twice under X rays, by screen and photograph each time, with negative results. I showed it to several medical men, who agreed that it was a curious condition, but none would give a definite diagnosis. A few days later it became movable and seemed pretty certainly to be a foreign body. As I was single-handed and there was no urgency I did not interfere till Feb. 8th, 26 days after the first symptoms, when by a superficial incision a needle 1¾ inches long was removed, to the great surprise of the boy, who had no idea how it had become imbedded there.

The interest of the case lies in the misleading history and the sudden onset of acute symptoms soon after the blow.

RAMSAY TESTIMONIAL FUND.—The presentation of the portrait of Sir William Ramsay, K.C.B., F.R.S., to University College, London, and of the replica to Lady Ramsay, will be made on Wednesday next, March 18th, at 4.30 P.M., in the botanical theatre of the College.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTIONS OF NEUROLOGY, OPHTHALMOLOGY, AND OTOLOGY.

Discussion on Nystagmus.

A COMBINED meeting of these sections was held on Feb. 26th, Mr. WILLIAM THORBURN being in the chair.

Mr. W. T. HOLMES SPICER opened a discussion on Nystagmus. He traced the history of our knowledge of the condition, and showed how the movements of the eyeballs varied from large and obvious excursions down to the finest of movements which could only be detected with the ophthalmoscope. Out of 200 cases he found that in nearly 50 per cent. the movements of the eyes were in a horizontal direction; about 15 per cent. were rotary and about 12 per cent. vertical; 4 per cent. had mixed movements; 2 per cent. were irregular and 2 per cent. circumductory; 1 per cent. were condivergent or disjunctive; and a few were odd and unclassified. The horizontal and vertical forms varied greatly in rapidity of movement and in range, and they were nearly always conjugate, but in a few cases they were condivergent. The rotary cases were nearly always conjugate, but condivergent ones had been seen. Circumductory movements were usually conjugate; he had never seen one which was not. They were often rhythmical. Use of the eyes was essential to the existence of nystagmus. The eyes were quiet during sleep and sometimes so in the dark. It sometimes happened that on covering one eye oscillations commenced in both. Unilateral nystagmus was not uncommon and the movements were usually vertical, but not always. If the nystagmus had been recently acquired, a sensation of movement of objects was produced, but this was never noticed in the congenital cases. Nystagmus did not occur in those born blind or who became so very soon after birth. It often became more marked with fatigue; in some cases light produced it, and in some it became more apparent in the dark. He described the well-known fact that after watching objects moving in one direction a negative after-movement of stationary objects was seen, which made them appear to go in the opposite direction. Some persons were able to produce nystagmus at will. The most important causative factor in producing nystagmus was a defective retinal image, due to either a corneal or a lenticular lesion or to some abnormal nerve or retinal condition. Errors of refraction had not been proved to cause this, but corrections of high degrees of astigmatism had often led to great improvement, or even to cessation of the nystagmus. Many of these patients had large refractive errors. Albinos and those with excessive pigmentation often had nystagmus. The pigment which usually affected eyes in this manner was generally supposed to be that of the retinal epithelium, but this could not be recognised by the ophthalmoscope, as the choroidal pigment masked it, and this might really be the case in those which were not obviously albinotic. In some cases the nystagmus was hereditary, but its cause not definitely ascertained. As regards occupation nystagmus, the weight of evidence was on the side of bad fixation being the primary cause, and besides miners compositors were often affected. In spasmus nutans the head movements preceded the nystagmus by a few weeks and they bore no relation to each other. This condition was supposed to be due to an instability of the motor centres. Mr. Spicer also briefly mentioned myoclonic nystagmus, injury cases, and those of toxic origin.

Dr. JAMES TAYLOR said that nystagmus, though usually associated with visual defects, was sometimes due to labyrinthine and nerve diseases, and he gave briefly the anatomical relations between these organs. With regard to the brain, nystagmus was most likely to follow disturbance of some coördinating mechanism in near relationhips to the mid-brain, pons, and cerebellum. He discussed the mechanism of this theory. It was seen in disseminated sclerosis, Friedreich's ataxy, and syringomyelia. It was common in cerebellar disease and in unilateral lesions. In most cases of cerebellar disease nystagmus was found, as also was it in local lesions in the vicinity of Deiters's nucleus. Besides

the central motor mechanism, the peripheral nervous mechanism might produce it. The muscles themselves might cause it, as in myasthenia gravis. He thought that some of the conditions he had pointed out might be taken into consideration in order to explain the presence of nystagmus associated with visual conditions.

Mr. SYDNEY SCOTT said that labyrinthine conditions undoubtedly produced nystagmus. Rhythmic nystagmus might be produced in normal people by applying excessive stimuli to the semicircular canals, such as by rapid rotation, irrigating the ear with hot or cold water, or the galvanic current. He described the anatomy and the physiology of these canals, and expressed the view that "the deviation of the head and eyes is in the same direction as the current in the endolymph, and the nystagmus is in the opposite direction." He described the effect produced by stimulating each of the three canals by rotation of the head in the different planes, and also by the galvanic current. He had met with 23 examples of the "fistel symptom," and in nearly every case he had been able to verify the existence of a labyrinthine fistula, though many cases of fistula occurred without the "fistel symptom" being produced. As regards spontaneous labyrinthine nystagmus, it resembled induced nystagmus in kind and degree, being always symmetrical and generally unilateral. The less acute forms were sometimes seen in cases of acute or chronic otitis media. Spontaneous rhythmic rotary nystagmus to one side was also met with when the opposite labyrinth had become functionless, and disappeared again when both became destroyed. If the labyrinth were stimulated in cases of total blindness, such as resulted from primary optic atrophy unaccompanied by intracranial disease, rhythmic nystagmus could be provoked by rotation or irrigation. When one labyrinth was defunct spontaneous nystagmus could be arrested by pressure on the carotid sheath of the normal side. It was possible to measure the strength of the stimulus required to produce nystagmus, for sometimes it was easier to be obtained on one side than the other. He described the various methods.

Cases were exhibited which illustrated various forms of nystagmus.

The discussion was resumed on March 4th, when Sir ANDERSON CRITCHETT, Bart., President of the Section of Ophthalmology, occupied the chair.

Dr. T. LISTER LLEWELLYN dealt with the relation of miner's nystagmus to general nystagmus. In the former the oscillation of the eyeballs was only one—though an important one—of the physical signs and symptoms. In miners the nystagmus produced marked subjective symptoms, while the ordinary person with nystagmus might not have noticed it. In miners the oscillation was of a rotatory character, and was usually equally marked in both eyes. The nystagmus was increased on exertion or by making the patient look up. It was usually brought to a standstill when the eyes were directed downwards. In general nystagmus the eye oscillation was generally lateral. The conditions producing nystagmus were those causing an inexact image to be formed on the retina; this was so in optic atrophy, marked errors of refraction, and corneal opacities. Albinism, with its lack of visual definition, was always associated with nystagmus. In dull illumination there was a tendency to use the peripheral portion of the retina. Arlt and Edridge-Green suggested that the movements had the object of bringing fresh portions of the retina into play. The miner in his work not only found great dulness, but almost a complete absence of colour relief. In the better lighted mines there were but few cases of nystagmus. He related some very interesting observations on the lighting power of reflections from ordinary walls, which was practically absent from the face of the coal. Moreover, to be out of the way of the pick the lamp was often six feet or more from the face of the coal, and the available light was often not more than one-third of a candle-power, and it fell on a substance capable of absorbing 86 per cent. of the rays. Safety-lamp pits were hot-beds of the disease. Of 900 consecutive cases of miner's nystagmus, 870 had worked with safety-lamps and 30 with candles, and 20 of the latter had at some time worked with safety-lamps. He had noticed that several of the most severe cases of miner's nystagmus had fair hair and light-coloured eyes. He did not agree with Snell that miner's nystagmus was due to the strain produced by the unnatural position of head and eyes while holing; the man really looked straight at the spot to which he directed his pick. Moreover, working in an unnatural position in a good light did not cause the disease. These patients complained of loss of sight, especially at night time, of headache, of giddiness, and intolerance of light. Marked cases caused mental depression, and there might be tremor of eyelids, eyebrows, and even of the shoulders. The ultimate cause of the condition was want of coördination in the mid-brain ocular centre of Gowers, governing the associated movements of the eyes.

Dr. DAN MCKENZIE expressed agreement with the remarks of Dr. Llewellyn, as he found, while practising in a Scottish mining district, that there were very few cases of nystagmus among the miners, and they used naked lights, hence the illumination was superior to that given by the safety-lamp. He proceeded to deal with the subject of vestibular nystagmus. He agreed that the movement of the endolymph in the semicircular canal was never a steady round-and-round circulation; it was a wave-motion. He suggested that usually the rise or fall in endolymphatic pressure in the ampulla was quickly relieved by local excess of fluid passing into the finer portion of the canal and so round its undilated end, and this rapid equalisation of pressure prevented undue stimulation of the end organ. But when there was sustained pressure, as in continued rotation, the relief could not be brought about sufficiently rapidly, and excessive stimulation of the nerve-ending would ensue, causing nystagmus and vertigo. With regard to spontaneous nystagmus of the labyrinth storm, the direction of the nystagmus should not be taken as the faithful guide as to which was the affected labyrinth, or to distinguish acute labyrinthitis from cerebellar abscess. He urged that the vestibular tests should be employed in all cases of mild or severe perceptive deafness, as it was useful for diagnosis and prognosis. He gave particulars of 36 cases and drew the lessons from them.

Mr. R. J. COULTER (Newport) endorsed the views put forth by Dr. Llewellyn, and agreed that there was a neurosis as well as the oscillation of the eyes in subjects of miner's nystagmns. The idea that it was due to gases in the mine was quite given up. He exhibited a safety lamp which had been used eight hours, one not yet used, and an electric miner's lamp, and narrated a case in which a miner, about to give up work on account of nystagmus, was provided with an electric lamp, and was still working some two months later.

Mr. N. BISHOP HARMAN analysed his results in the case of a series of 1100 blind children under 16 years of age. Of this number 289 had nystagmus, and he classified them in groups according to the ocular conditions present.

MEDICAL SOCIETY OF LONDON.

Discussion on Radium Therapy.

A MEETING of this society was held on March 9th, Sir DAVID FERRIER, the President, being in the chair.

Major A. E. HAYWARD PINCH, I.M.S., opened a discussion on Radium Therapy. He gave an account of the procedure in vogue and some of the results obtained at the Radium Institute. He said they were lucky to have the use of radium salts whose purity was 90 per cent. The salts they used either in flat applicators or in tubes. The flat applicators contained radium bromide in three strengths—full, half, and quarter strengths, holding radium bromide in quantities of 10 milligrammes, 5 milligrammes, and 2·5 milligrammes respectively to each square centimetre of surface. They were either round or rectangular in shape; the latter were better, since they fitted in closer apposition and more easily covered the surface to be treated. The tubes all contained the radium salt very tightly packed—a feature which was necessary for good emanation. Radium emanation was used in the same fashion, and the solution employed was equal to at least one millicurie per litre. The disadvantage of the emanations was the rate at which they decayed, and this rendered their value negligible after a fortnight had elapsed. The fall in value was 1·6 per cent. in 24 hours, but by preparing slightly greater strengths than were to be used this fall could easily be compensated for. On the other hand, emanations had certain great advantages; the radiation was practically

uniform throughout, and it was much more adaptable because it was able to be condensed. Several varieties of screens were used and included 1/100 mm. of aluminium, 5/100 mm. aluminium, 0·5 mm. silver, 1 mm. silver, 1, 1·5, 2, and 3 mm. lead, and 0·3 and 0·5 mm. platinum. Of these he preferred the 1 mm. silver screen. If too thick a screen were used, secondary radiation occurred. Speaking of the protection of healthy tissues, he said that he had found in cases of application of radium to the axilla that ill-effects were particularly likely to occur if the axilla was moist. This was combated by drying with dusting powder. In applying radium to a tube of mucous membrane, as the rectum or vagina, the healthy mucous membrane might be protected with a gauze plug. A flexible silver wire was a useful means of keeping the tube in position. Whenever it was possible to bury the tube in a growth to be treated this should be done, for in this way the degree of emanation utilised was at least four times as great. He then spoke of the experience which he had met with in the treatment of various forms of disease. In the case of capillary nævi a preliminary diascopy was useful. If by gentle pressure blanching was caused the result of treatment would probably be good. There was considerable personal idiosyncrasy to treatment, and it was important to gauge the personal equation first and not to keep irritating the skin lest telangiectasis and pigmentation be produced. Venous nævi reacted successfully, except when a pulsating vessel could be felt. He also spoke of the use of this treatment in certain diseases of the skin—pruritus, lichenification, chronic eczema, psoriasis, lupus erythematosus, keloid, and keloid acne. Pruritus was successfully treated only if it was associated with definite lesions. Psoriasis improved, but the rash returned. Keloid and keloid acne were benefited more than by other methods of treatment. Warts often disappeared after one exposure, but moles were not benefited to the same extent, and a scar often remained. The treatment was suitable for tuberculosis of glands in the absence of operation, but tuberculosis of skin did better by the Finsen light. Fibromyomata of the uterus had been treated by 100 milligrammes in the vagina or cervix, and 100 more on the lower abdominal wall. No result followed at first, then the metrorrhagia ceased, and, finally, the menorrhagia. From the point of view of radium therapy, rodent ulcer presented two types: (1) the hypertrophic nodular type, which was almost certainly cured by radium; and (2) the ulcerative type with overhanging edges and gelatinous base, which was not so favourably influenced by the treatment. He then spoke of radium therapy in relation to malignant disease. The treatment for malignant disease which was operable was by operation. He did not use the word "cure" for the results of radium treatment in relation to new growth. In carcinomata of the tongue and mouth there had been some encouraging results by the use of small and powerful tubes. Carcinoma of the œsophagus had been temporarily benefited, but he had not seen a case of arrest of the growth. The annular type of carcinoma of the rectum was influenced more than the plaque variety of growth. Some very good results had followed treatment of carcinoma of the bladder, and he had seen no results equal to those obtained by radium, operation excepted, in carcinoma of the uterus. When in this disease a Wertheim's operation had been done it was necessary to exercise great care in the treatment. Improvement had been noticed in the treatment of new growths of the prostate and of the penis. The neoplasms which responded best of all were the sarcomata, particularly those in the naso-pharynx, and the lympho-sarcomata. Melanotic sarcoma was best left untreated by this means. In lymphadenoma great and rapid temporary improvement had followed. Neuritis due to local lesions had been benefited. The variety of arthritis deformans which gave the best results was that which was multi-articular in character and peri-articular in form. It was incumbent upon all of them to exercise the greatest caution in the publication of their results, and more especially of statements which might afford an opportunity for distortion by the lay press. The effects of garbled announcements in the daily papers were often most tragic, and the amount of mental distress caused to patients and their relatives when they were informed of the true position of affairs was incalculable. He could find it in his heart to wish that all workers with radium might be pledged to a policy of silence for two years, and though this was impossible he could at any rate urge the deletion of the word "cure" from their vocabulary when speaking of the radium treatment of malignant disease. They must all most earnestly hope, however, that the time was not far distant when, with increased knowledge and improved technique, they might be able to use the word "cure" deliberately and justifiably. That they did possess in radium a therapeutic agent of great power no thinking medical man could deny, but exactly how powerful it would prove to be was at present a matter of conjecture. Many years ago the eminent philosopher and scientist, Sir Isaac Newton, in reviewing the work of his life, said: "I seem to have been only like a boy playing by the seashore and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay undiscovered before me." He hoped his hearers would pardon him if he adopted that simile and said that the present-day workers with radium were but as beach-combers searching earnestly and persistently, finding here the valuable agate of hard fact, and there the precious shell of some delicate inference; but the treasures of the ocean of radium therapy lay unexplored before them.

Sir FREDERICK TREVES said that the position of radium was peculiar, for it had controverted acccepted laws both in physics and in chemistry, and exhibited no feature which was not marvellous. It had often been said that radium stood at a very excessive and artificial price, and that, commercially speaking, a corner in radium existed, but there was no truth in this statement. The price was due entirely to the demand. He expected that it would become cheaper, but would never be cheap. There was a prospect of using additional sources of supply. As the result of the great demand for it much so-called radium was of very inferior quality. Terms of amount which were frequently used in radium therapy were of no value, as the strengths varied greatly and there were many different salts, each containing a different percentage of the metal. The technique which had been employed at the Radium Institute was that laid down by Wickham, but, as that observer had indicated, there was every probability that the technique might be improved. He agreed entirely with the closing part of Major Pinch's address.

Sir ALFRED PEARCE GOULD said that he also appreciated the caution advised by the opener, that little should be said of the curative value of radium for the present. He agreed that the introduction of radium into growths was much better than its application to their surfaces, and recounted a case of a tumour of the brain of a girl to whom decompression had been done. A large mass projected through the skull, but whether of cerebral tissue or glioma it was impossible to say. After the introduction of radium she had recovered speech and memory and had been able to give an account of herself. The improvement lasted three weeks, but her stuporose condition then recurred and she died. One could not speak of any remedy for cancer by the name of "cure" until one knew the nature of the condition.

Mr. A. CLIFFORD MORSON spoke of his researches into the histological appearances of new growths after radium treatment. The malignant cells underwent degeneration, not only in the growth itself, but also in the glands secondarily affected.

Dr. HERBERT WILLIAMSON spoke of the use of radium in diseases of the female genital organs. He had had experience in cases of carcinoma of the cervix, carcinoma of the body of the uterus, fibromyomata, and fibrosis uteri. In carcinoma of the cervix he had operated first, and within two or three days afterwards applied radium through the vaginal wound which had been left open. His object had been to subject to the emanations the outlying cancerous tissue. It was too early to judge of the results. Only inoperable cases had been treated by radium. He had not seen a case either cured or rendered operable, but the patients' lives had been prolonged, and considerable improvement had followed. In every case, however, a sudden and unexplained outburst of carcinoma had taken place later. In carcinoma of the body of the uterus the results had been better, and he thought that one case had become operable by this means. He had only employed it for fibromyomata where operation was contra-indicated, and had treated two cases in which no uterine hæmorrhage at all had followed.

The question of cure in such cases should be postponed, but he was convinced that in radium the surgeon had a powerful aid which should be called in as soon as possible after operation.

Mr. T. H. KELLOCK said that he was in agreement with nearly everything which Major Pinch had said. He mentioned that radium treatment might produce harm, and called attention to the necrosis and destruction which might result in healthy tissue. He had seen necrosis of bones, and especially of the jaw, after the application of radium, an eventuality which might sometimes be deferred for weeks or even months. It was necrosis of a very severe form. He had observed the same effect upon the mucous membrane of the mouth, which was comparable to that produced by X rays. Many of the cases which were especially benefited were those in which sepsis and cancer were combined, and he thought that in such one ought not to draw too definite a conclusion as to the effect on the cancer itself. He doubted whether radium ought only to be used for inoperable cases, and did not think it a rational procedure to use radium after the growth had been removed.

Mr. DOUGLAS HARMER said that radium had proved of great value in the treatment of cancer of the upper respiratory tract, and that the following considerations were important: 1. Method of application: Tubes containing 100 to 200 milligrammes should be buried deeply in the growth, if possible, from outside by an aseptic operation. The normal mucosa must be protected from burning. For cancer of the mouth or pharynx as much of the growth as possible should be removed by diathermy before applying the radium. The tubes might be left in place for 12 to 48 hours, according to the size and situation of the growth; large doses and prolonged treatment were followed by considerable sloughing. 2. Effects produced: (*a*) Shrinking of the growth was often rapid, and was obvious a few days after exposure. If no result was noticed in three weeks the case was not a favourable one. (*b*) Arrest of hæmorrhage. Radium was valuable for this purpose; for instance, bleeding from a cancer of the tonsil could sometimes be checked completely by an application of a few hours. (*c*) Pain. When the growth disappeared or became smaller pain might be completely relieved; on the other hand, radium might increase the pain, and this constituted one of the great drawbacks to the treatment in very advanced cases. 3. Results: In most cases improvement was only temporary, but in rare instances it might last for months or even years. The best results were seen in cases of rapidly growing sarcoma, such as occurred in the nasal fossa, upper jaw, post-nasal space or tonsil. As operations on such tumours were so often followed by rapid recurrence the question of radium in preference to the knife should be carefully considered. Growths which appeared to be microscopically sarcomata might completely disappear after radium. Carcinoma of the upper jaw or nasal fossa might also shrink away quickly and remain quiescent for a period, and hard warty growths on the tongue, tonsil, floor of the mouth or pharynx were rarely improved. He had not yet seen a cancer of the tongue or tonsil which had been cured by radium. Epithelioma of the deeper pharynx and œsophagus could sometimes be retarded by radium and dysphagia might be relieved for a time. Ulceration might disappear, so that expectoration of foul discharge was lessened. Greater activity of the growth was rare. Endothelioma was said to improve, but in two of his cases the radium had little effect. The important question arose whether radium should be placed in wounds when it was found that the whole of a growth could not be removed with the knife and for how long the treatment should be continued. There seemed no conclusive evidence that radium would retard the growth in some cases. Certain innocent tumours could be cured by radium. At the present time he had under treatment a case of multiple papillomata of the larynx which was steadily getting better. Previously the man had had repeated operations during ten years. Harris, of New York, reported 13 cases of the same kind cured by radium with better voice results than would have been obtained by operations.

Dr. N. S. FINZI referred to the factors which influence success or failure in the radium therapy of malignant disease. 1. The most important factor was the type of growth. The more rapid the growth the more likely was it to respond readily, and the more vascular growths were also more favourable. The round-celled sarcoma was the most amenable to treatment, and he advised radium treatment of this disease in preference to surgical eradication; the other sarcomata were also favourable but to a lesser degree. The columnar carcinomata responded better than the epitheliomata, and in some cases, particularly uterine carcinoma, they responded very well indeed. The epithelioma of the maxillary antrum was an exception to the general rule of epithelioma and responded readily. The endothelioma also reacted favourably. 2. Stage of the disease. This was most important, as the action of the radium was due, in part at any rate, to the action of the healthy tissues in destroying the disease. In the later stages of the disease the patient's resistance went and radium would do no good. 3. The method of application. (*a*) It was essential to treat the disease thoroughly as well as the outlying parts. Excessive radiation causing sloughing of healthy tissues was to be avoided. (*b*) Frequency of repetition. As a rule applications were used at intervals of six to eight weeks, and it was better to use long applications at long intervals than short applications at frequent intervals. (*c*) Type of rays. In his experience the γ rays were the most useful type. He usually employed 2 mm. platinum to screen the rays in most forms of malignant disease. (*d*) It was necessary to use large quantities of radium in dealing with this complaint. He agreed with Major Pinch as to the advisability of burying the radium in a growth whenever possible. Not only were the rays in all directions utilised, but one also obtained rays of very great intensity close to the tube. He was using another method which he suggested in 1909. Instead of burying the radium in the growth it was buried in the tissues around it close to the growing edge. The method was only available in a few cases, but as the growing edge was all that really mattered in a growth, the method had distinct advantages. It also led to a considerable amount of occlusion of the vessels and lymphatics around the growth. This was most desirable, as it caused retrogression. It was essential in all these embedding operations to practise the *most rigid asepsis*, the damaged tissues forming an excellent breeding ground for bacteria if they were allowed to enter. A variant of these operations was to introduce radium, not into the centre of the growth, but under the growing edge or in a groove in the growth.

Dr. H. LEWIS JONES emphasised the importance of detailed study of the after-histories of cases that had been treated by radium.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

The Treatment of Syphilis of the Central Nervous System.

A MEETING of this society was held on March 6th, Dr. F. S. PALMER, the President, being in the chair.

A paper was read by Dr. HARRY CAMPBELL on the Treatment of Syphilis of the Central Nervous System. He said in the treatment of the interstitial forms of syphilis of the central nervous system, gummatous meningitis, endarteritis, &c., good results could be obtained from the use of mercury and potassium iodide and salvarsan; the mercurial course must be thorough and the dose of iodide large, 1–2 drachms or more of the latter three times a day. In the parenchymatous forms of the disease, general paralysis of the insane and tabes dorsalis, no drugs were of use because the coverings of the cord and brain did not permit their passage. In 1900 intrathecal injections of mercury into the spinal canal were first tried. Two years ago injections of salvarsanised serum were injected into the spinal canal; in nearly every case of tabes dorsalis where this treatment had been adopted improvement occurred. The lightning pains have in each case been relieved, in nearly all the Wassermann reaction has become negative, while the leucocytosis has improved and the patient put on weight very rapidly. Cases of general paralysis have not been improved, but in two cases recently where the serum has been introduced into the lateral ventricle there has been some improvement.

Dr. PALMER said: From the large amount of research in recent years into the pathology of syphilis of the central nervous system there is strong evidence to support the view that the infection is in every case widespread in the meninges of the brain and cord, and that it occurs about the same

time as the appearance of the cutaneous rash. The best results are obtained by the inunction method of giving mercury as at Aachen. The new method of giving salvarsanised serum introduced by Drs. Homer Swift, Fisher, and Lewis seems to hold out some promise in the treatment of tabes and general paralysis of the insane, and one tabetic patient of my own has been greatly benefited.

Mr. C. A. BALLANCE said: In two cases of general paralysis of the insane under Dr. Campbell I have introduced 40 c.c. of serum into the anterior cornu of the lateral ventricle; the serum was given with about 50 c.c. of normal saline solution. No ill effects followed in either case, and in one patient signs of improvement have occurred. The other is too recent to report. The serum was introduced into the ventricle because the researches of Key and Retzius show that there is no communication between the subdural and subarachnoid spaces except in the Pacchionian bodies.

Dr. E. J. FEARNSIDES said: All persons showing serious manifestations and giving a positive Wassermann reaction either in the serum or cerebro-spinal fluid, whether the condition be diagnosed as "syphilitic" or "parasyphilitic," should receive adequate treatment with salvarsan or neosalvarsan, seeing that these drugs stop the progress of the disease even when they have little or no effect on the manifestations already present. Frequent injections must be given. In acute syphilitic disease not more than half a dose of salvarsan should be given. A positive Wassermann reaction in the cerebro-spinal fluid while negative in the serum is so common that lumbar puncture should be done in all cases in which after treatment new symptoms develop. The effects of treatment should always be controlled by frequent examinations of the cerebro-spinal fluid.

Mr. H. E. BATTEN said: In cases where an intravenous injection of salvarsan has been given, a marked leucocytosis, often considerable, occurs. If, however, an intrathecal injection of salvarsanised serum is given, there is always a diminished lymphocytosis. In one case of tabes treated with serum the knee-jerks returned and the patient was able to resume work.

Dr. T. GRAINGER STEWART, Dr. F. L. GOLLA, and Dr. H. M. FISHER also took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Lorenz's Treatment for Congenital Dislocation of the Hip.—Ectopia Vesicæ.—Tertiary Ulceration Treated with "606."—Excision of Elbow.

A MEETING of this section was held on Feb. 20th, Dr. R. D. PUREFOY, the President, being in the chair.

Dr. WALTER C. STEVENSON exhibited two cases illustrating Lorenz's Treatment for Congenital Dislocation of the Hip. The first case was one of single dislocation of the right hip reduced 11 months ago. The child had four plasters altogether, the last of which was put on three weeks ago, and the limb was not free to move until a week ago. The second case was one of double congenital dislocation in which both hips were reduced 18 months ago, and were still in plaster. The child was allowed up each day after the first three weeks.—Dr. W. S. HAUGHTON, after describing the five different stages of Lorenz's treatment, exhibited four cases. The first child was 5 years old, and the treatment was completed two years ago, so that it was apparent that the benefit was permanent. The plaster was removed 14 months after the treatment was instituted. The second child was aged 4 years when the treatment started. The operation was performed in May, 1912, having been preceded by five or six weeks' manipulation and massage—the difficulty of reduction being greatly decreased by this treatment. The plaster was changed as required, and the limb brought down in easy stages. In November, 1912, she was mounted upon a stool, and the last plaster was put on 12 months after the treatment commenced. The child turned out the left foot occasionally, but it was considered that this would disappear with further instruction. The third case was one of double congenital dislocation. The child was 5 years old when treatment commenced. Lorenz's operation was performed in November, 1911. The second plaster was put on in October, 1912, and the third in May, 1913. The child was put on the stool in October, 1913.—Mr. W. J. DE C. WHEELER said he was much impressed by the excellence of the results, especially as he had recently seen a patient, aged 25, who had not been treated, and her condition was most deplorable. With the object of reducing the time necessary in these cases he had recently performed an operation which consisted in transplanting a portion of bone so as to form a new brim to the acetabulum, but it was too soon yet to form any opinion as to the result. He suggested that in the application of the plaster it might be useful if one part of dextrin were mixed with the plaster to prevent cracking.

Mr. D. KENNEDY exhibited a case of Ectopia Vesicæ after operation. This consisted in opening the abdominal cavity above the rudimental bladder. Having freed the bladder from the abdominal wall, the ureters and bladder were lifted out of the cavity altogether. A long incision was then made in the rectum, and into the cavity was dropped all the bladder wall that was present, and a fixation suture was inserted between the bladder wall and the rectum. The remaining steps of the operation consisted in suturing the rectum, leaving an opening for the passage of the ureters. At the time of operation the child was less than four years old, and at this age no plastic operation could be attempted on the abdominal wall, and, as a result, the child developed a ventral hernia. There was no ascending infection. As to capacity to hold urine, at present there seemed a slight occasional leakage from the rectum, but at intervals of from two to three hours the child passed urine in considerable quantities. He hoped that in time this leakage would altogether disappear.—Mr. C. A. BALL said he had shown a boy five years ago upon whom he had operated for this condition by Peter's extra-peritoneal operation. This operation had the advantage that there was no risk of infection of the peritoneum; it was a quicker operation, and the result in his case was satisfactory. The boy had always control except in the morning, when the bowels were inclined to move.—Mr. K. E. L. G. GUNN suggested that if a rectal examination was made it would probably be found that there was no bladder left. He had experience of such a case, and it appeared to him that the bladder blood-supply was cut off.—Mr. A. J. M. BLAYNEY said it had been shown that if the ureters were implanted high up urine poisoning was likely to arise, but when implanted low down this could be prevented. He considered it safer to confine the implantation to the lower end of the rectum.

Mr. H. MOORE exhibited a case of Tertiary Ulceration of the Face treated by "606." The principal interest in this case was the nose, which had been grafted by Mr. T. O. Graham. He thought it was a case of congenital syphilis or infection which occurred when the patient was young. The history was that the infection commenced in the throat and spread to the face, and the case more resembled tuberculous disease. The lesion healed up wonderfully rapidly, and had not anything like the deep cicatrix usually seen after the older treatment. The patient had already had five injections of salvarsan, and after the third the cicatrix had healed up sufficiently to permit of the nose being affixed.—Mr. GRAHAM described the operation and showed a model demonstrating what he did.—Mr. W. PEARSON considered it possible that this recurrent ulceration around the corners of the mouth should not be looked upon as specific, as the tissues there must be unhealthy, and hence superficial ulcerations might occur in the scar tissue.—Mr. G. E. P. MELDON suggested that a good many cases were marked as lupus that were not lupus, and often a Wassermann was not tried. If the ulceration progressed more rapidly than one expected in lupus, and if it tended to get deeper, it might be regarded as syphilitic. He thought, perhaps, there was a double infection in the present case—namely, tuberculous and syphilitic.—Mr. BLAYNEY said this case raised the question as to whether the Wassermann test was reliable. It appeared that the lesion on the patient's face was the only evidence of syphilis. The case in its clinical features resembled more tuberculous lupus than syphilitic lupus. The question also arose as to whether arsenic had not an effect in these cases.—The PRESIDENT thought Mr. Blayney had raised important points. It was quite open to question how far the evidence of syphilitic taint was satisfactory. The syphilitic suspicion was formed, in his opinion, by the good effect of salvarsan. Whether congenital syphilis often affected the throat and

nose in the degree seen in this patient was also open to question. He hoped that an opportunity would be afforded of seeing the patient again at a later stage.—Mr. MOORE, replying, said the patient was having mercury and iodide of potassium, and it was now proposed to stop this and give a further injection of salvarsan. As to whether the appearance was tuberculous or syphilitic, the throat and palate showed the ulceration to be deep, and ordinary ulceration of lupoid character was not very deep. The throat healed without treatment, and this was against it being tuberculous. There were also numerous gummata to be seen. The ulceration on the face was very extensive, and there was a great deal more infiltration of the skin than in the ordinary tuberculous case. Without any Wassermann at all he had formed the opinion that it was a case of syphilitic lupus, and the Wassermann reaction gave a plus 4.

Dr. W. A. CROFTON and Dr. STEVENSON exhibited a case of Excision of Elbow. The patient shown came to hospital two years ago with a history of three years' lesion in his elbow. The arm was in a bad condition and the fingers very stiff. There were many lesions on the forearm, over which the skin was very soft, and it was stated that a number of surgeons advised that the only cure was amputation. He was at once put on injections of tuberculin, made from dissolving the bacilli in iodoform and ethyl chloride. These were continued up to 0·001 gramme, when there was a very severe reaction. The other micro-organisms were investigated and a coliform bacillus was found. Accompanying the iodoform he was given dioradin. The lesion healed up at the end of about a year, with the exception of two small sinuses, at the bottom of which could be felt some small pieces of bone, and Dr. Stevenson was asked to remove them. Dr. Stevenson said that when he operated he found the bones in such a healthy condition that he determined to remove sufficient to give the patient a chance of having a free joint. The wounds healed rapidly after operation, and there was now very fair movement in the joint.

ULSTER MEDICAL SOCIETY.—A meeting of this society was held in the Medical Institute, Belfast, on Feb. 26th, Mr. A. B. Mitchell, the President, being in the chair.—Professor W. St. Clair Symmers gave an account of 24 cases of sudden death, all with the same history and with similar post-mortem appearances. There was a history of alcoholism in all, death was also sudden, in some cases almost instantaneous, and in all the stomach and pancreas each showed the same form of lesion. In the stomach there was a form of stippled hyperæmia, with several bright-red areas of about the size of pin-points, as if the stomach was stippled over with a red punctated paint. The pancreas was not of the usual pallid or yellow straw appearances, but it looked red angry, and as if inflamed from head to tail, tinged with effused blood, and with great ecchymoses all over it. In one case it appeared as if it was lying in a pool of blood. Microscopically, in the angular spaces of the gland, the capillaries were enlarged and full of blood, and in many places one could not recognise that the gland was pancreas at all. Several of the pancreases were exhibited by Professor Symmers, as well as a stomach with the stippled hyperæmia. Two microscopic sections were shown side by side, one of a normal pancreas, while in the other slide a section was displayed of the diseased one, in which no acinous arrangement was present, this having become obliterated; all that was visible was a vast number of necrosed cells in a state of death. Professor Symmers said there were 24 cases presenting certain correlated symptoms: (1) sudden death, as if the patients had been shot; (2) a history of alcoholism; (3) a stippled hyperæmia of the stomach, post mortem; and (4) pancreatic necrosis; this latter condition was not inflammatory. In none of the cases were any brain or heart lesions found. The cause at work was not known; it might be alcohol or bile, but Professor Symmers brought the cases forward as a new condition, leading to sudden death, which had not, in his opinion, hitherto been described.—Dr. John E. MacIlwaine gave an account of the Electrocardiographic Method of Examining the Heart-beat. The principle of the electrocardiogram he described as based upon the change in electrical condition of the contracted portion of a muscle. The method of using the instrument, which was now located in the Royal Victoria Hospital, Belfast, was fully explained. It was the Cambridge Scientific Instrument Company's electrocardiograph, which was an adaptation of Einthoven's string galvanometer. Several normal electric cardiograms were first shown and their component parts fully described; then a brief *résumé* was given of the modern view of the "mechanism of the heart-beat," followed by the exhibition of a series of electric cardiograms, showing heart-block, premature contractions, auricular flutter, and auricular fibrillation; and the altered mechanism of the heart-beat which led to their production was explained. In conclusion, Dr. MacIlwaine pointed out and emphasised the importance of the method as one for estimating the condition of the myocardium, as well as its advantage in exact observation of the effect of drugs given in treatment of cardiac disease.—The President said it was clear the often-given diagnosis, in cases of sudden death, of "heart failure" must be revised. He congratulated the society on hearing that evening such interesting communications.—Sir John Byers said he thought the condition so clearly demonstrated by Professor Symmers was a new one; just as in his own department the same intoxication which in one case caused albuminuria and eclampsia might in another give rise to the bleedings in the uterus seen in certain types of accidental hæmorrhage, along with eclampsia. Dr. McIlwaine's admirable communication would, he hoped, be followed by further kindred papers.—Dr. W. Calwell welcomed the electrocardiograph, but thought the polygraph was also of great value.—Mr. P. T. Crymble suggested that the sudden death in Professor Symmers's cases might be due to pressure (by the affected pancreas) on the nerves situated in the blood-vessels behind it.—Dr. H. L. McKisack spoke of the value of the electrocardiograph in prognosis.—Professor J. A. Lindsay said every facility would be given Dr. MacIlwaine to pursue this new line of cardiac research. He quoted Sir Clifford Allbutt as doubting the efficacy of any means to increase their knowledge of disease of the myocardium.—Dr. A. G. Robb spoke of a series of sudden deaths of boys in an industrial school who had pancreatic lesions.—Professor Symmers and Dr. MacIlwaine replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 20th, Mr. A. Ernest Maylard, the President, being in the chair.—Sir John Collie delivered a lecture on Malingering. He said that a malingerer, one who feigned sickness or deliberately induced or protracted an illness, must be distinguished from a valetudinarian, one who, being morbidly solicitous about his health, unconsciously simulated disease or exaggerated symptoms. Many such people, if thrown out of work by accident or illness, might be converted into chronic invalids or induced to return to work, according to the attitude taken up by the medical man in attendance. It was therefore of the utmost importance that at the earliest possible moment a return to occupation, however light, should be recommended. The practitioner who, feeling that he had to treat a mental as well as a physical condition, substituted for medication the modern methods of psychotherapeutics would have fewer patients suffering from traumatic neurasthenia and neuropathic conditions generally. A form of malingering encountered of late years among British troops in India was associated with the practice followed by the Government of sending to the Pasteur Institute in Paris all soldiers who had run the risk of infection by hydrophobia. It was discovered that by means of the lower jaw taken from the skeleton of a dog, and attached to a piece of wood, bites were being produced without any risk of hydrophobia and attributed to some mad dog which had escaped into the jungle. On the establishment of a Pasteur Institute at Kasauli the antirabic treatment, robbed of the pleasure of a long sea voyage, became rather a deterrent than otherwise. Moral malingering was practised by many lads who, finding the discipline and work of the army irksome, procured their discharge by deliberately stealing. Technically, they committed a crime, but with no criminal intent, the object of the theft being not to obtain the goods stolen but solely to merit punishment and through it reap a benefit. In the increase of malingering now threatened fictitious skin diseases were likely to play an important part, and the criteria by which artifically produced changes might be distinguished from the lesions characteristic of the various skin affections

deserved careful study. It must be remembered that a genuine secondary dermatitis might be set up by scratching and might mask the original artificial eruption, also that a genuine pre-existing skin disease was sometimes wilfully aggravated and kept up by patients who profited by continued disability. On the other hand, a particular occupation might have been followed for years without the skin suffering, and yet from lowered vitality or other causes the skin resistance might give way and a true dermatitis ensue. For the detection of simulated unilateral blindness an ingenious test has been invented by Dr. von Haselberg, of Hamburg, consisting of parti-coloured letters and figures used in conjunction with red and green glasses. It was based on the fact that anything coloured red could not be distinguished as red if looked at through a red glass. To be successfully applied the test must be carried out with great caution. One of the most difficult things in medico-legal medicine was to state with any degree of accuracy the amount of disability resulting from impairment of the hand as a whole or any of its digits separately or together. This difficulty was enhanced by the invariable habit patients had, when being examined with a view to fitness for work, of involuntarily watching every movement they were asked to make, with the result that the malingerer consciously, and the honest man unconsciously, restrained all movement. No real information could be gained unless the patient's view was entirely obscured, either by a book or newspaper held in front of his eyes, or better by blindfolding of his eyes. By various devices also a malingerer might be taken off his guard and led to execute movements of which he had professed himself quite incapable. Loss of substance, the result of sloughing or suppuration of ulcerated wounds, when it took place in large muscles, sometimes produced an unsightliness out of all proportion to the diminution of power resulting from the accident. It was not infrequent, therefore, to find that during the process of healing, which was necessarily slow, a man had consciously or unconsciously been directed by actual loss of tissue to exaggerate the resulting disability. It was not unnatural for a layman to associate loss of substance with corresponding loss of function, making no allowance for the surplus power with which nature had lavishly supplied us, and this was exactly the class of case in which the judicial authorities, if unassisted by a medical referee, were apt to sympathise unduly with the plaintiff.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 25th, Dr. J. Coubro Potter being in the chair.—Dr. Potter exhibited a case of Retro-Pharyngeal Abscess in a woman with secondary abscess in the axilla. Owing to the serious condition of the patient a preliminary laryngotomy was performed and the upper end of the larynx plugged. The abscess was then evacuated. Recovery was uneventful.—The case was discussed by Mr. C. J. Heath, Mr. W. Ibbotson, Dr. Frederick Spicer, and Mr. Haynes Lovell, who thought that possibly the axillary abscess was primary and not secondary.—Dr. Potter, in reply, said he looked upon it as an acute exacerbation of a chronic condition, possibly arising from tuberculous prevertebral glands. The fact that no tubercle bacilli were found in the discharge did not negative tuberculosis. He also showed a case of severe Tinnitus in a woman with suicidal tendencies.—Mr. Heath showed two patients on whom he had performed mastoid operations in order to prevent deafness, and subsequently read notes on a mastoid case in which delay of operation caused prolongation of the danger by weeks and the after-treatment by months.—Dr. Spicer pointed out the great difficulty of the general practitioner in making a decision as to the necessity or otherwise for a mastoid operation. He thought that the indications for operation required revising. He could not quite agree with the dictum of Mr. Heath, "that a persistently discharging ear without pain means danger to hearing and a discharging ear with pain danger to life." According to that view every discharging ear ought to be operated upon. He hoped Mr. Heath would clearly state what he considered were the indications for performing a mastoid operation.—The cases were also discussed by Dr. Potter and Mr. J. Walker Wood.—In reply, Mr. Heath pointed out that the treatment must depend upon the aural surgeon's ideal. If his ambition extended to the prevention of deafness from aural suppuration, he must arrest discharge before it had done harm to the tympanic apparatus, and this frequently entailed the performance of a conservative mastoid operation within a few days or weeks of the commencement of disease according to the urgency of symptoms and condition of hearing. If, however, the aural surgeon—as some did—held the power of hearing in little estimation, and was content with saving life, then he might allow the discharge to continue until the patient died of old age, or until dangerous symptoms appeared, and then perform a radical mastoid operation.—Dr. Spicer showed a case of new growth on the palate which was thought by the Fellows present to be papillomatous in nature.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held in Liverpool on Feb. 20th, Dr. J. H. Willett (Liverpool), the President, being in the chair.—Dr. J. E. Gemmell (Liverpool) showed: 1. A specimen of Carcinoma of Cervix commencing during pregnancy, from an 8-para, aged 34, which had caused hæmorrhage during the later months of pregnancy. Labour was normal, but the hæmorrhage continued, and there was pain referred to the right hip and thigh. On examination the cervix was enlarged, its inner surface being rough and boggy. The uterus was removed by pelvic dissection, the patient making a good recovery. Microscopic section showed a glandular carcinoma. 2. A specimen of Carcinoma of Ovaries removed from a patient aged 41, with a diagnosis of double chronic inflammatory appendages. The growths were adherent to the floor of the pelvis, to omentum and rectum; the left contained pus. Microscopic section showed a mass of glandular carcinoma. Dr. Gemmell also reported a case of Solid Ovarian Tumour as a cause of dystocia necessitating Cæsarean section. The patient was a 2-para, the first confinement being normal. Twelve hours after the commencement of labour her medical man found the head obstructed by a hard swelling which filled the pelvis. This tumour could not be moved so Cæsarean section was performed, and subsequently a solid tumour of the left ovary, the size of a fœtal head, was removed. Convalescence was complicated by a cystic swelling over the sacrum, which eventually had to be opened.—Dr. D. Dougal (Manchester) read the notes of a case of Ectopic Pregnancy occurring twice in the same patient. The patient, a 1-para, aged 28, went two weeks over her period in July, 1912, and was operated upon for a ruptured ectopic pregnancy of the right tube; this tube and ovary were removed. Menstruation was now regular for 14 months, when she again went over her period for two weeks, and was now operated upon for a ruptured ectopic pregnancy of the left tube. Figures were given to illustrate the frequency of this condition.—Mr. W. P. Gowland (Liverpool) gave a demonstration of Born's method of reconstructing embryos in wax. The embryo was first cut in serial sections and the method of drawing these on an enlarged scale by means of the Edinger projection apparatus was demonstrated. The conversion of the drawing on thin tissue paper into a wax plate was also shown and the means to secure accurate orientation when the plates were superimposed to form the complete model. Great stress was laid upon the necessity of proper fixation of the embryo in as fresh a condition as possible. Models of human embryos, kindly lent by Professor Peter Thompson and Mr. N. C. Rutherford, were on view. During his remarks Dr. Gowland pointed out the necessity for a closer association between the gynæcologist and the anatomist, as only by coöperation between the two could many embryological problems be solved.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on March 6th, Dr. David Ross, the President, being in the chair.—The President showed a man, aged 46, who took to his bed, after being unfit for a week, with symptoms suggesting influenza. Two days later he was seen by Dr. Ross and found to have a temperature of 102° F., general rhonchi, cough, dorsal backache extending to the sternum, which was tender; the tongue was dry and brown; he looked very ill. The pain lasted for six days, then gradually disappeared, and in 17 days from being medically seen the patient thought medical attention unnecessary. A few days later the pain recurred. Dr. Ross was again called in on the nineteenth day from his first visit to find an abscess pointing over the mid-sternum the size of a teaspoon bowl. This was incised and about

300 c.c. of pus let out. The sternum was perforated. The man rapidly recovered from his acute suppurative mediastinitis.—Mr. J. M. Laughton showed a man, aged 52, who for 30 years had had Spasm of the Muscles of the Left Face without pain, lasting a minute or two. He could induce but could not inhibit the spasm. Treatment had been ineffectual.—Mr. W. C. M'Donnell showed a man, aged 31, the subject of old Right Pleurisy, Emphysema, and Chronic Right-sided Pulmonary Tuberculosis, whose apex beat was two inches below and half an inch inside the right nipple. The liver was on the right.—Mr. J. J. Udale showed a man, aged 53, with Elephantiasis of the Left Leg of 19 years' standing that commenced after erysipelas of that leg. There had been recurrent attacks. Filariæ were not present. Lymphangioplasty had been twice done with temporary success on the second effort. Autogenous vaccine treatment had been tried without benefit.—Mr. H. Curtis advised further careful autogenous vaccine preparation and use.—Dr. B. G. Morison read notes of a case of Acute Rheumatism in a girl of 11 years, who had purpura at its commencement followed by endocarditis leaving a damaged mitral valve.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A pathological meeting of this society was held on Feb. 27th at the Leeds School of Medicine, Dr. T. Wardrop Griffith, the President, being in the chair.—Dr. A. S. F. Grünbaum read a paper entitled "Theoretical and Experimental Aspects of the Treatment of New Growths," which was discussed by Mr. G. Constable Hayes, Dr. J. E. Eddison, and Mr. J. F. Dobson.—Dr. C. W. Vining showed a specimen from a case of bilateral cortical infarction found post mortem in a girl of 16 dying from general peritonitis following acute intestinal obstruction. It was pointed out that this kidney condition was rare, and when it did occur it was in cases of women dying from eclampsia at childbirth.—Dr. G. W. Watson showed a Portion of Lung and a Spleen from a case of Phthisis which terminated fatally six to eight weeks after the onset of symptoms. The signs in the chest extended very rapidly during the last four weeks of life, and death occurred suddenly from a severe hæmoptysis. The spleen showed a massive infarction. It was suggested that the cause of this infarction, and also that of multiple small infarctions which were present in the kidneys, was probably detachment of portions of clot from thrombosed pulmonary veins.

Reviews and Notices of Books.

Studies in Water Supply.

By A. C. HOUSTON, D.Sc., M.B., C.M. Edin. London: Macmillan and Co., Limited. 1913. Pp. 203. Price 5*s.* net.

IT is frequently asserted, and with considerable ground, that as regards the science of bacteriology, and particularly as regards that portion of it of which practical use is made in medicine, we in this country owe an immense debt to France and Germany. All the more credit, therefore, is due to Dr. Houston in that he has applied bacteriology to the problem of water-supply in such systematic, careful, and progressive fashion that the laboratory of the Metropolitan Water Board has become in this matter the pioneer water laboratory of the world.

The present monograph contains an account of some of the numerous and important investigations that have been made by Dr. Houston and his assistants on problems in relation to water-supply; and it has, of course, special reference to the water-supply of London. We shall not here refer to the general considerations of the work done at the laboratory of the Metropolitan Water Board, as these have already been fully dealt with in a leading article in THE LANCET of Feb. 7th, 1914, p. 398, but shall confine ourselves to a consideration of details.

The continuous examination of the water of the Thames and Lee has enabled Dr. Houston to indicate the times at which from the point of view of quality it is desirable to abstract water for supply, and the times at which abstention is preferable. Dr. Houston employs the colour test for this purpose, and uses Burgess's scale for classifying the results.

Regarding the preliminary purification of raw water the improvement in quality to be obtained by simple sedimentation is thus clearly shown:—In an experiment with a small storage reservoir of 7,000,000 gallons capacity it is noteworthy that a nominal storage of only 15–16 hours produced a percentage reduction in the bacteria of 39·2, in the ammoniacal nitrogen of 20, and in the turbidity of 21·8. Dr. Houston finds that the use of coagulants increases this preliminary purification, and he has also a word to say in favour of mechanical or pressure filters which at York, during a trial lasting for three years, appear to have produced the very satisfactory reduction of the bacteria by 85 per cent.

It is characteristic of Dr. Houston that, although making the fullest use of available methods and sparing no pains to substitute well-ascertained and patiently collected facts for the previous vague knowledge, he has always had an eye to the introduction of improved measures of water purification. It is clear from the present book that the idea of absolutely freeing a water of all its living germs has been much in his mind. No doubt this idea of sterilising a large volume of water arose in connexion with sewage effluents in the course of his previous work as bacteriologist to the Royal Commission on Sewage Disposal. For Dr. Houston, in the typhoid outbreak of 1905 at Lincoln, which was traced to the water-supply, performed the memorable task of sterilising the water-supply of the town without interfering with the service. We believe that we are correct in stating that this was the first occasion on which such a feat had been accomplished in any country. It is necessary to emphasise the point, because Dr. Houston's methods were later copied in America, where an attempt has been made to present the credit of this pioneer work to an American whose work considerably post-dated that of Dr. Houston. The sterilising agent used by Dr. Houston with such success at Lincoln was an alkaline solution of sodium hypochlorite known as "chloros," a preparation which contains from 10–15 per cent. of available chlorine, but Dr. Houston remarks that bleaching powder, which contains about 33 per cent. of available chlorine, is equally suitable. The dose of chloros used at Lincoln for sterilising the water-supply varied according to circumstances, but was usually 1:100,000, or approximately 1 to 1,000,000 in terms of available chlorine. This treatment of the Lincoln water was continued over a period of six years, until a new supply was introduced.

Dr. Houston has now devised a new and in many ways improved method of sterilising an impure water-supply. This method he calls the "excess lime method." In the time-honoured softening process for hard water a limited dose of lime is added, the amount being carefully calculated so as to be rather less than is needed to combine with the bicarbonates present. Dr. Houston points out that owing to the purely chemical nature of the object in view this procedure has been so arranged as to prevent the bactericidal action of the lime. By his "excess lime method," therefore, the water is purposely overdosed with lime so as to bring about a known bactericidal effect, and then, after a suitable interval, the water is mixed with enough

untreated stored water to combine with the excess of lime. Dr. Houston gives numerous experiments and particulars, from which it appears that the bactericidal dose of lime for hard waters is rather less than 1 to 5000, and for very soft waters more than 1 to 50,000. He points out the circumstances under which the excess lime method is specially attractive and cites the following instances. 1. In the case of a water bacteriologically impure, which in any case it is proposed to soften. 2. In the case of a contaminated river-supply where sand-filtration is the only safeguard, where there is hardly any available storage accommodation, and where the occasional use of flood water is necessary for waterworks purposes. 3. In the case of wells not sufficiently pure to be used without some form of treatment, and concerning which some doubt exists as to whether storage *plus* subsequent filtration would prove an altogether satisfactory remedy. 4. In the case of surface waters unduly "soft" and not free from undesirable pollution. The river Dee, from which the water-supply of Aberdeen is taken, is a case in point, and it may be noted that the result of an experimental trial at Aberdeen of Dr. Houston's process has been so satisfactory that the town council has now decided to use the method continuously.

The particulars which have been given are enough in themselves to show the enormous importance of the work collected in this monograph to those who have to deal with water-supply. The remaining chapters contain a synopsis of the well-known researches of the Metropolitan Water Board laboratory on the purifying effect of storage, and also a full description of the bacteriological methods used there. Two chapters, however, remain that will be of special interest to medical officers of health and to members of public bodies who have to deal with water-supply. Dr. Houston's chapter on Water and Disease is full of information on the subject, and as temperate as illuminating. The comparison between the typhoid death-rates in the principal cities of Europe and in many cities of the United States tends to prove that America is much behind Europe in the prevention of typhoid fever. Dr. Houston's suggestion that comparison should be made of the water-supplies of all these cities both in Europe and America by standard bacteriological methods such as those which are in daily use at the laboratory of the Metropolitan Water Board is one that deserves to be acted upon. For without doubt such an investigation would yield results of great value, not only in the diagnosis and treatment of bad water-supplies, but also in the saving of human life. In addition, this inquiry would assist towards the perfection of that science of a pure water-supply which Dr. Houston himself has done so much to build up.

Flies in Relation to Disease: Non-Bloodsucking Flies.

By G. S. GRAHAM-SMITH, M.D. Cantab. Cambridge: University Press. 1913. Pp. 292. Price 10*s.* 6*d.* net.

THE rôle of flies in communicating disease through protozoan parasites, which undergo stages in their life history within the flies, is so important and has been so much written about that we are apt to forget another and very deleterious function performed by these insects.

The communication of such diseases as malaria is brought about entirely by biting flies; but such flies as well as others which only wander over the human body, especially upon sore places, may also be as deadly in their way, for they often bring with them attached to their mouth parts, or even merely to the walking limbs, germs of various diseases which they have accidentally picked up from filth of various kinds upon which they feed. This mode of infection is so obvious on *a priori* grounds that experimentation and observation are, theoretically speaking, almost unnecessary. But although the presence of danger from possible "myiasis" of this kind seems clear without further discussion, the author is of opinion that "the general tone of the medical profession is apathetic" in the matter. Dr. Graham-Smith sets himself to amend this laxity, and devotes a large part of his book to detailing important experiments which absolutely prove the deadly rôle that is played by many species of flies.

It will astonish even the reader with zoological knowledge to learn what a large number of species of diptera are to be found in the ordinary dwelling house. To most of us the house-fly, an occasional blue-bottle, a gnat or two, would seem to exhaust the dipterous possibilities. But Dr. Graham-Smith enumerates no less than 18 species, and these are only the "common house-frequenting non-biting flies." The relative importance of the different species as germ carriers is considered, a relation which depends largely upon the numbers of each species. There is no doubt from the figures given by Dr. Graham-Smith that Musca domestica is far the commonest, and therefore the most dangerous. The numbers of this fly, as compared with all others, are in some cases from 80 to 90 per cent. of the total fly population of a house. These various flies are treated of in some detail as to their structure and development, as well as their mode of life, the structure being explained by many plates. It is, of course, the habits and life history which have the greatest interest in relation to the question of disease carrying; and a vast number of these insects are known to be dung frequenters, a large proportion again being attracted by human excrement. It is, of course, in this that their danger lies.

But while these facts are of much practical as well as theoretical importance, the author does not leave us with such only partial instruction as to the rôle of flies in conveying infection. It is one thing to assert that flies can transmit the germs of various diseases propagated by germs, and another to prove that they actually do so. Dr. Graham-Smith points out that in the past epidemics of flies were believed to be associated with disease epidemics. Sydenham, for example, associated the prevalence of flies in summer with a sickly autumn. But a more definite and positive association between non-biting flies and the transmission of disease is new, and dates only from late in the last century. An immense amount of information, partly gathered by himself, is brought forward by Dr. Graham-Smith concerning actual experimentation with flies; the discovery upon them of many pathogenic organisms and the length of time which these organisms can live upon their temporary and accidental hosts are considered. Many of these experiments might be cited, but we shall call attention only to the author's researches upon B. prodigiosus, which are elaborately tabulated. The author found that the bacterial organism could live in the fly's crop for four or five days and sometimes even longer, and it was proved that

cultural plates could be infected by flies which had taken up these bacteria.

The volume ends with a very copious bibliography, zoological as well as pathological. Of the very greatest use as a compendium of the subject from the sanitary side, Dr. Graham-Smith's work may be commended as a useful addition to zoological literature.

Spezielle Pathologie und Therapie Innerer Krankheiten.

Edited by FRIEDRICH KRAUS and THEODOR BRUGSCH. Lieferungen 1–4 (Bd. I., Hälfte I., pp. 1–238); Lieferungen 5–8 (Bd. II., Hälfte I., pp. 1–240); Lieferungen 9–12 (Bd. II., Heft 2, pp. 1–259); Lieferungen 12–16 (Bd. II., Heft 1, pp. 241–430). Berlin und Wien: Urban und Schwarzenberg. 1913. Price 2 marks, or 2.40 kronen each Lieferung.

THE aim of this new work, according to a prefatory note, is to sum up the present state of medical knowledge. The editors point out that nowadays knowledge is so rapidly increasing that our ideas concerning disease are frequently changing, and so at certain intervals it is as well to take stock.

The work is not intended to be an encyclopædia, such as that of Ziemssen or Nothnagel. It consists of a series of monographs by writers who have made a special study of their subject, and is to form a succinct and critical survey of medical science at the present day. It is written especially for the practising physician, and consequently much attention has been directed towards the clinical and therapeutical aspects. Judging from the list of distinguished contributors and the scheme of work as laid down in the prospectus, it is evident that the editors have done their work of selection well, and we may say at once that if the succeeding parts maintain the standard of these, the work will be thoroughly valuable.

The first part deals with diseases of metabolism. Professor Magnus-Levy, of Berlin, writes on gout and diabetes mellitus, including lævulosuria, heptosuria, glycosuric acid excretion, and glycosurias of non-diabetic nature. He illuminates the subject of chemical pathology, and gives illustrative cases from his own clinic, showing how carefully and in how detailed a manner such cases are investigated, and appends instructive charts of the daily nitrogenous excretion. Though gout and diabetes are here described as separate entities, Professor Magnus-Levy discusses the relations of gout to diabetes and to obesity, and thus the idea is fostered that these are by no means independent diseases, and this is further elaborated in the section by Professor Fr. Umber, of Berlin, on the intermediate disturbances of metabolism. Under the heading of amino-acid diathesis he discusses cystinuria, diaminuria, and alkaptonuria, and takes the reader step by step through the disintegrative process herein concerned. In the same section are dealt with, diabetes insipidus and cachexia.

The second, third, and fourth instalments contain the greater part of the section devoted to infective diseases. The first 148 pages are taken up with a general review of the phenomena of infection and immunity, by Professor R. Kraus, of Buenos Aires; in this section are included such subjects as the meiostagmin reaction and Abderhalden's tests for carcinoma and pregnancy. Professor G. Jürgens writes on typhoid and paratyphoid, pointing out that the facts elicited by bacteriological investigation do not as yet account for all the features of the epidemic conditions. He insists on the septicæmic character of typhoid fever as opposed to the old view of its local incidence on the intestinal glands, and advises early resumption of solid food in the form of biscuits and the like, instead of keeping the convalescent patient for a long time on slops. Professor Jürgens also treats of dysentery and of influenza. He holds that the former is a true specific disease due to the Krüse-Shiga bacillus, amœbic enteritis being a separate affection often combined with dysentery. The causal connexion of influenza with Pfeiffer's bacillus he regards as not proved, as the organism is apparently absent in many epidemics. Diphtheria is described by Professor F. Meyer, who notes that there are many gaps in our knowledge of the etiology, nature, and treatment of this disease, among which is the doubt as to the relationship between the Klebs-Loeffler and the pseudo-diphtheria bacilli. The section on tetanus is by Dr. R. Ritter von Stenitzer, and that on epidemic cerebro-spinal meningitis by Professor W. Knöpfelmacher, while Professor W. Weintraud writes on acute rheumatism. The last-named writer does not regard any of the different micro-organisms described as present in cases of rheumatic fever as the proved cause of the malady, nor does he look on salicylates as true specific remedies in the sense of attacking the causal agent: they are merely convenient antipyretics which can be given in larger doses than others, such as the coal-tar derivatives, which are more immediately toxic. Finally, Professor E. Peiper contributes an article headed indigenous helminthiases, in which are included, curiously enough, accounts of certain ciliate protozoa (balantidium and lamblia), pediculi, sarcoptes, and so forth.

There are numerous illustrations throughout the various parts, many being coloured plates, which are well done. The plan and execution of the articles are alike excellent; there is a copious bibliography to most of the sections, and the whole forms a first-class text-book and a valuable work of reference in the subjects with which it deals.

Science and Education.

A Series of Volumes for the Promotion of Scientific Research and Educational Progress. Edited by J. MCKEEN CATTELL. Vol. II., *Medical Research and Education.* New York and Garrison, N.Y. 1913. Pp. 536.

THIS book is a collection of 28 addresses delivered and papers read on various occasions by American medical men eminent in their respective departments. The papers are not all recent; they bear various dates, indeed, from 1899 to 1912, and all but two have been previously published in some medical or scientific journal or other. But a common aim runs through them all, in that all deal with some aspect of the relations between research or education, or both, and medicine. It is impossible to do more than enumerate them here. Professor Richard M. Pearce, of the University of Pennsylvania, opens the volume with the Hitchcock lectures for 1912 at the University of California on Research in Medicine. They are five in number, and treat respectively of the historical aspect of the subject down to the nineteenth century, the influence of physics and chemistry, the rise of bacteriology, present-day methods and problems, and the position of medical research in America. Other papers are: The Experimental Method, and Chance and the Prepared Mind, also by Professor Pearce; the Interdependence of Medicine and other Sciences

of Nature, Medicine and the University, and the Relation of the Hospital to Medical Education and Research, by Professor W. H. Welch; the Medical School as part of the University, by Professor W. H. Howell; Liberty in Medical Education, by Professor Franklin Mall; Medicine and the Universities, and Some Tendencies in Medical Education in the United States, by Professor L. F. Barker; Certain Ideals of Medical Education, by Professor C. S. Minot; the Career of the Investigator, by Professor W. B. Cannon; Some Experiences of a Medical Teacher, by Professor W. Councilman; the Place of Medical Research in the University Medical School, by Professor Theobald Smith; two addresses not hitherto published, respectively on the Outlook in Medicine and Problems, Methods, and Organisation of Research, with Special Reference to Physiology, by Professor G. N. Stewart; the Improvement of Medical Teaching, by Professor C. M. Jackson; the Equipment and Instruction of the Laboratory Years, by Professor E. P. Lyon; the Educational Function of Hospitals and the Hospital Year, by Professor James B. Herrick; the Addition of a Fifth Year to the Medical Curriculum, by Professor J. M. Dodson; Medicine and Sociology, by Professor C. R. Bardeen; the Relation of Research to Teaching in Medical Schools, by Professor W. Ophüls; the Science of Clinical Medicine, What it Ought to be and the Men to Uphold it, by Dr. S. J. Meltzer; the Public and the Medical Profession, by Professor James Ewing; the Duties and Responsibilities of Trustees of Public Medical Institutions, by Professor W. W. Keen; Research Foundations in their Relation to Medicine, by Dr. Henry H. Donaldson; Imagination and Idealism in the Medical Sciences, by the late Professor Christian Herter; and the Medical School of the Future, by the late Professor H. P. Bowditch. The subjects are for the most admirably handled, and in an interesting manner, though naturally many of them are of a debatable nature. While many of the papers deal with problems peculiar to the United States, others constitute a discussion on first principles that should have great interest for all concerned with medical education and research.

Food and Feeding in Health and Disease: A Manual of Practical Dietetics.

By CHALMERS WATSON, M.D. Edin., F.R.C.P. Edin. Second edition, revised. Edinburgh and London: Oliver and Boyd. 1913. Pp. 638. Price 10*s.* 6*d.* net.

THIS book is a very serviceable one owing to its practical character. Whilst rendering a clear account of the principles of dietetics, a very large section is devoted to the actual preparation of foods.

There are altogether 32 chapters, ten of which deal with preliminary considerations, as, for example, the function of food, its chemistry and physiology, digestion, absorption, the rôle of bacteria, the composition of animal and vegetable foods, beverages, preservatives, and adulteration. The section on diet and the choice of foods commences at Chapter XI., which relates to diet at different periods of life. Subsequent chapters give excellent practical directions as to the adaptability of foods in disease.

The author's views on the articles of diet that may be allowed in glycosuria and diabetes are of interest. In regard to carbohydrates he says that as a matter of practical experience in the treatment of diabetes the complete deprivation of starch in the breadstuffs is found to be so great a trial and becomes so irksome that it is usually necessary, and often desirable, to allow a small amount of ordinary bread. We find no reference to those foods which, although containing a large proportion of starch, claim to be suitable for diabetic patients on the ground that the starch has been so modified as to be easily digestible, the amount of sugar in the urine not being increased by their careful use. The book is full of sound observations on these and cognate matters. In the somewhat extensive appendix are published the results of the experimental researches carried out by the author and others in collaboration in the physiological laboratory of Edinburgh University since 1900. Some of these papers have appeared in our columns.

In the preface to the first edition the author acknowledges that in the preparation of the work he has derived much help (more especially with the data of the chemical composition of foods) from many sources, special mention being made of the writings of Atwater, Langworthy, "and of the analytical reports published from THE LANCET Laboratory." We much appreciate the terms of this acknowledgment.

Diseases of the Skin.

By HENRY W. STELWAGON, M.D., Ph.D., Professor of Dermatology in the Jefferson Medical College, Philadelphia. Seventh edition, thoroughly revised. Illustrated. London and Philadelphia: W. B. Saunders Company. Pp. 1250. Price 25*s.* net.

Dr. Stelwagon's work requires no introduction to English readers, and the fact that the seventh edition has appeared so shortly after the last speaks for the usefulness of the volume.

Considerable alterations and additions have been made. The book weighs nearly six ounces heavier than it did in the fifth edition, but the print is clearer and less trying to the eyes than in the earlier editions. The illustrations, to which 40 have been added, have a high standard of lifelike representation throughout. Descriptions have been added of prurigo nodularis, granuloma pyogenicum, benign sarcoid, and keratosis blennorrhagica. The footnote references are a valuable feature of this book—we note that there is over a page of references given under pellagra, the latest of these being that of Sambon, 1912. Dr. Stelwagon still gives details of X ray exposures by noting the spark gap, but the pastille measurement is also required to convey any accurate meaning to another worker with different apparatus.

We can heartily recommend this book for advanced students and practitioners.

Die Sanitätsausrüstung des Heeres im Kriege.

Mit Genehmigung des König. Preussischen Kriegsministeriums unter Benutzung amtlicher Quellen. Bearbeitet von Dr. W. NIEHUES, Oberstabsarzt im Kriegsministerium. Mit 239 Abbildungen auf 73 Tafeln und im Text. Berlin: August Hirschwald. 1913. Pp. 527. Price 24 marks.

DURING the last 20 years a large number of works on military surgery have been published under the direction of the Medical Department of the Prussian War Office. These have dealt with many urgent questions which concern the medical section of an army, but the present volume is as important as any of those which have preceded it. It deals with the equipment of the medical section of an army in time of war. It commences with a description of the field dressing, of which every soldier carries two; on

the dressing are printed full directions for its immediate application to a wound, and the dressing is so arranged that it may be applied without being touched by the fingers.

An interesting description is given of the portable bacteriological laboratory; it includes a very complete set of apparatus for bacteriological work. The portable dental equipment is also very complete, and includes the appliances necessary for fillings. Then follows a description of the wagons in which are carried the medical fittings, and also of the wagons for the transport of the wounded. The account of the surgical instruments provided and the way in which they are carried is detailed, and the hospital tents are described. Of great interest is the account given of the railway carriages fitted for the conveyance of the wounded and of the apparatus for the Röntgen rays.

This work shows to what a high degree of efficiency the Prussian army has carried its medical equipment, and the great attention paid to detail.

LIBRARY TABLE.

Child Labour in the United Kingdom. By FREDERICK KEELING, M.A. London: P. S. King and Son. 1914. Pp. 326. Price 7*s.* 6*d.* net.—The medical profession has a special interest in any question that tends to influence for good or evil the physical and mental welfare of the race. This is a study of the development and administration of the law relating to the employment of children in the United Kingdom. After an introduction in which the history and present position of child labour legislation is described the book is divided into six parts. Part I. traces the development of child labour regulations (outside of factories, workshops, and mines) in the United Kingdom. Part II. discusses the administration of child labour regulations, including a summary of recommendations. Part III. gives tabular analyses of local by-laws. Part IV. consists of reports, notes, and tables relating to the action of local authorities in enforcing child labour regulations. Part V. contains the principal Acts regulating the employment of children. Part VI. gives chronological lists of the Acts of Parliament and Orders, and British Government reports and other official documents, with separate indexes for the volume, to places, persons, and subjects. The work is full of well-digested information.

A Manual of X Ray Technic. By ARTHUR C. CHRISTIE, Captain, Medical Corps, U.S. Army. London and Philadelphia: J. B. Lippincott Company. 1913. Pp. 104. Price 6*s.* net.—This is a manual describing the construction, operation, and use of the various forms of apparatus used in X ray work. It is of a purely electro-technical character, and in no sense a medical work, except in so far as the apparatus is employed for medical investigation. Most forms of apparatus are explained and illustrated, diagrams being freely employed where necessary. It will be found useful for those who are taking up radiology and wish to make themselves familiar with the intricacies of the instruments they will have to use. The idea of a technical book describing and explaining the numerous electrical and other technical apparatus used in medical work is a good one. Such a book might be made even more comprehensive than the one here reviewed; it would do much to render unnecessary the tedious initial chapters of nearly every book that appears on medical electricity and radiology.

Ambidexterity and Mental Culture. By H. MACNAUGHTON JONES, M.D.Q.U.I., M.A.O.R.U.I. (Hon. Cau.), F.R.C.S. Irel. & Edin. London: William Heinemann. 1914. Pp. 102. Price 2*s.* 6*d.* net.—The subject of right- and left-handedness and ambidexterity crops up at intervals and leads to considerable argument. In this book Dr. Macnaughton Jones presents the case in favour of a training in ambidexterity from earliest infancy, and considers the objections that have been urged against it. He gives several reproductions of left-handed drawing and writing, and of simultaneous two-handed writing, two of which are very remarkable. First the writing of a girl of 16 with her left hand and right hand simultaneously, in which it would be difficult to distinguish either writing from the other apart, and secondly the right- and left-handed signatures of Sir Robert Baden-Powell, of which the same remark may be made. Occasional instances, however, are hardly likely to outweigh the effect of such experiments as those made in the Berlin Public Schools by Dr. Dickhof, to which reference was made in an annotation on Left-handedness Among School Children in THE LANCET of Feb. 21st.

JOURNALS AND MAGAZINES.

The American Journal of Tropical Diseases and Preventive Medicine. Vol. I., No. 7.—The January issue gives a report by Dr. J. A. Chatard and Dr. C. G. Guthrie on a carefully observed case of Human Trypanosomiasis occurring in Baltimore. The disease, however, was contracted in Africa, and the patient had remained free from symptoms for over three years after 19 weeks' treatment there. In this relapse the improvement after a single dose of salvarsan was striking. As to purely mechanical transmission by mosquitoes or other biting insects, this is held to be negligible, for it would involve interrupted feeding and immediate passage of the insect from the patient to an uninfected person. Dr. J. Allan McLaughlin discusses the influence of water-borne disease on the mortality of children, and points a warning finger to the fact that so-called water-borne diseases are transmitted also by other agencies, such as milk, flies, and dirty fingers. He urges the importance of sound sanitary teaching on these matters in the schools, and points to the success of this method in the Philippines, where the school-taught children instructed their parents with greater success than could be achieved by any health officer. Dr. Bayard Holmes, in a paper on the Outlook for Dementia Præcox, champions Abderhalden's defensive ferment reaction as a means of objectively diagnosing dementia præcox, and finds a gleam of hope in the reports of Lundvall and Donath, who have reported cures of 30 per cent. by protracted artificial hyperleucocytosis. Dr. Allan Eustis reports a case of long-standing amœbic abscess of liver and lung cured by intramuscular injection of emetine hydrochloride.

Orthopédie et Tuberculose Chirurgicale. Paris: J. B. Baillière et Fils. Subscription abroad 18 francs. Separate numbers (two-monthly) 3 francs each.—Under this title the first number of a new French journal has recently appeared, with Dr. Ménard as director, Dr. Calvé and Dr. Lamy as editors, and with a long list of collaborators, representing England, Germany, America, Austria, Belgium, Spain, Holland, Italy, Portugal, Russia, Sweden, and Switzerland. The international character is well shown in this first number, which contains an important article upon spinal caries, by V. Ménard; an account of the progress in tendon transplantation, by F. Lange; the treatment of scoliosis, by R. W. Lovett and by Mackenzie Forbes; an account of the hospital and college at Alton, by H. J. Gauvain, as well as other articles and a review of orthopædic literature. The journal is of good size, well printed and illustrated, and if the standard of the first number is maintained it will prove a valuable addition to orthopædic literature.

The Dental Cosmos. Philadelphia: The S. S. White Dental Manufacturing Company. Price 20c.—In the February issue Dr. W. J. Gies contributes a paper of considerable value on the Relation of Sulphocyanite to

Dental Caries. In the summary of general conclusions he remarks "that there is nothing about the known quantities of sulphocyanite to indicate that it is able, in the proportion of its normal occurrence in saliva, to affect the secretory tendencies of the salivary or buccal glands, to modify the oral membranes, to influence the teeth from any standpoint, or to stimulate or retard or alter the activities of the oral micro-organisms." Dr. George Brown, in a paper on Upper Maxillary Contraction and Expansion, states that he has seen marked improvement in the general health follow the spreading of the upper arch. There are several skiagrams of cases given, but the paper is by no means convincing. In the discussion on the paper Dr. Stanton records an experiment on a post-mortem specimen. With the aid of a powerful spreading appliance he was able to spread the molar teeth, but he was not able to open the intermaxillary suture. On removing the appliance the teeth promptly returned to their original position.

Journal of Micrology and Natural History Mirror. Reading: 22, Carnarvon-road. Price 4*d.* monthly. Pp. 20.—This journal will be of interest to those who use the microscope to any extent for recreation. This, the first, issue contains, among other interesting features, an article on a simple camera for photomicrography, a lesson in tracing the genealogy of an unknown organism, a note on large-*versus* small-tubed microscopes, pond-life notes, the description of a quickly prepared slide of bacteria, and the commencement of a series of articles on mounting objects. It is an excellent publication for the amateur, and the character of the articles is indicated by an extract from the editor's opening remarks: "For the aid of those whose enthusiasm is deeper than their pockets we shall preach the gospel of 'paste board and string,' of the 'soldering bolt and the unconsidered waste trifle.'"

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

BYNO-CHRISMOL.

(ALLEN AND HANBURYS, LIMITED, 37, LOMBARD-STREET, LONDON, E.C.)

IT is remarkable how satisfactorily liquid paraffin blends with an active malt extract. Byno-chrismol, for example, which contains equal quantities of chrismol, a specially prepared liquid paraffin, and active malt extract, bynin, may be described as a very nearly clear fluid, so intimately is the oil bound up with the malt extract. As a matter of fact, the preparation is opalescent and shows complete uniformity of composition. Examined under the microscope it appears perfectly homogeneous and free from oily particles. The addition of water instantly produces a uniform emulsion. We find that the preparation exhibits a marked digestive activity on starch, and the quantity of oil incorporated is in accordance with the claim. The moisture amounted to 17·13 per cent., mineral matter to 1·07 per cent., and the malt sugar to 32·00 per cent.

KEROL CAPSULES.

(QUIBELL BROTHERS, LIMITED, NEWARK.)

The efficiency of kerol as an antiseptic and disinfectant is attributed to the fact that it contains a di-phenyl nucleus instead of a mono-phenyl nucleus, as is the case with carbolic acid. Apart, however, from the application of kerol in general sanitary or medical practice, it has received considerable praise as an intestinal disinfectant. For this purpose it is administered in capsules which secure its conveyance to the intestinal tract. Clinical observations show that it possesses distinct advantages for this purpose compared with the similar employment of salol, beta-naphthol, and other well-known intestinal antiseptics. An interesting series of cases is reported in which its value in intestinal flatulence and alimentary toxæmia is reported. Kerol was examined by THE LANCET Commission on Disinfectants in 1909 and the results awarded it a high carbolic acid coefficient. Professor Hewlett reports kerol to be 60 times less toxic than phenyl when compared with quantities of equal germicidal efficiency. This statement is most important in regard to the clinical applications of this antifermentative and germicide.

CARNINE LEFRANCQ.

(WILCOX, JOZEAU AND CO., 49, HAYMARKET, LONDON, S.W.)

Our analysis of this preparation confirmed that published by the Municipal Laboratory of Paris, although this latter analysis does not differentiate the albuminous principles. The feature of the preparation is that it contains the fresh juice of muscle expressed by pressure at a low temperature. It should, therefore, contain coagulable albumin, which we found to be the case. The amount coagulated by boiling proved to be 3·22 per cent., while the total albuminoids present was 5·68 per cent. The juice is preserved in syrup and glycerine, which render the addition of other antiseptics unnecessary. The method of preparation is of clinical importance, since not only is muscle albumin present in easily assimilable form, but it contains also the active enzymes of the muscle plasma. Uncoagulated meat juice gives the hæmoglobin spectrum, and this is the case with carnine Lefrancq.

IRISH WHISKY.

(DUNVILLE AND CO., BELFAST. LONDON: 239 AND 241, SHAFTESBURY-AVENUE, W.C.)

An analysis of two specimens of whisky from this firm appeared in our issue of Feb. 8th, 1908, and as showing the constancy of composition these analyses have been repeated on samples recently sent to us. The secondary products in V.R. brand were as follows, given in parts per 100,000 of alcohol present: Ethers, 31; aldehydes, 5·4; higher alcohols, 109; and furfural, 0·32. These figures are in substantial agreement with those previously published. With regard to the special liqueur, the recent example examined showed a reduction in the amount of furfural and higher alcohols, but in other respects the chemical composition of the liqueur remains the same. Both specimens evidenced maturity and possess that peculiar flavour characteristic of genuine Irish whisky. The standard quality of these whiskies is evidently maintained.

GRANULATED KOLA GLYCEROPHOSPHATES.

(A. WANDER, LIMITED, 1 AND 3, LEONARD-STREET, FINSBURY, LONDON, E.C.)

The appearance of this preparation is that of small sections of vermicelli, except that it is of a light chocolate colour. It affords an attractive method of administering the glycerophosphates coupled with fluid extract of kola-nut, which possesses marked stimulating properties. The dose is from one to two dessert-spoonfuls given with each principal meal. We confirmed the presence of both calcium glycerophosphate and caffeine, to which may principally be ascribed the stimulating properties of kola-nut. In one ounce of the granulated preparation we found ½ grain of caffeine and 8 grains of glycerophosphate of calcium. The medicinal value of these constituents is well known, and the preparation affords a pleasing way of administering them.

PARKE, DAVIS & Co.'s PAGE

LETTERS TO MEDICAL MEN

5. THE PHYLACOGEN TREATMENT OF SCIATICA.

NOTE.—The medical reports quoted in this letter are published by permission. On request, we shall be glad to place any *bonâ fide* enquirer in communication with the authors.

DEAR SIR,—As you are aware, the term "sciatica" has rather a wide connotation, being applied to various painful affections of the sciatic nerve. These are mainly inflammatory and perineuritic, since it is the neurilemma that is usually involved. The condition is frequently only a symptom, and until the actual source of the pain is understood, is often exceedingly intractable; hence the necessity for that accurate diagnosis which we have already insisted upon in these letters.

Sciatica a Symptom.

Sciatica may arise from inflammation (acute or chronic) of the neurilemma, the result of cold, gout, rheumatism, gonorrhœa, syphilis, or one of a variety of toxic agents; or from pressure, from whatever cause arising, directly upon the nerve, its various branches, or upon the lumbar plexus.

According to a writer in "Modern Treatment" (vol. ii., page 573), "rheumatism is the most frequent cause" of sciatica. In the absence of a positive diagnosis it seems reasonable, therefore, to assume that Rheumatism Phylacogen is indicated in the majority of cases.

Rheumatism a frequent cause.

We have records of upwards of 50 cases of sciatica that have been treated with Rheumatism Phylacogen, and of these 89 per cent. were cured. Of eleven cases reported in this country during the past year a cure was obtained in every instance, and in some of these many months have elapsed since treatment with no return of pain. The following brief clinical reports are specimens of such as we are receiving from different parts of the country:—

A West London physician reports a case of sciatica which had been under observation for two years. The patient, a male, aged 24, had an attack of sciatica with every change of weather, and he had been treated at various watering places, &c., without result. He had an attack in September, 1912, when he was confined to bed. The sciatica failed to yield to any treatment, and no relief could be obtained. Treatment by Rheumatism Phylacogen was adopted, and after an initial dose of 5 c.c., five doses of 10 c.c. each were injected. Considerable reactions followed. The patient was cured and there was no recurrence of pain.

A West London Case.

The following case was reported from North London:—The patient, a female, 53 years of age, had suffered from sciatica for two and a half years. Salicylates, iodide, and all ordinary remedies and routine treatment had been tried without success. Phylacogen treatment was begun on July 8th, 1913, when 2 c.c. of Rheumatism Phylacogen were injected. July 9th, no change, 3 c.c. injected; 10th, considerable reaction, pain less; 11th, pain decidedly better, 4 c.c.; 13th, pain better, leg still weak, 5 c.c.; 17th, sciatica better, 6 c.c.; 19th, decidedly better, 7 c.c.; 21st, considerable reaction, 8 c.c.; 23rd, very much better, 9 c.c.; 25th, 10 c.c.; 26th, greatly improved, patient walks easily. The patient went back to her occupation, and there was no return of the pain some months later.

A North London Case.

The following report comes from a Scottish Hospital:—When the patient, a young woman, came under Phylacogen treatment she had been suffering from an attack of sciatica of three or four weeks' duration. There was tenderness at all the nodal points of the left sciatic nerve, and some fibrosis of the left thigh and leg. Ordinary remedies had failed to produce any amelioration of the symptoms. The first two doses (2 c.c. and 3 c.c.) gave rise to no reaction, and had little, if any, effect on the pain; but the third injection, 5 c.c., was followed by a sharp rise of temperature and pulse, accompanied by intense pain, and swelling of the left arm and shoulder, which persisted for a couple of days. The sciatic pain, however, had completely gone. The patient remained under observation for three weeks longer, during which time she had no return of the pain and was able to walk and run without any difficulty.

A Case from Scotland.

Another Scottish practitioner reports a case of sciatica of six months' duration which improved from the first injection, and which was completely cured; and we have similar reports from Ireland and the South of England.

The Phylacogens are issued in 10 c.c. phials only. When a dose is withdrawn the rubber cork is replaced, and the liquid keeps perfectly till it is again required. Phylacogen is preserved with a sufficient quantity of phenol to inhibit bacterial growth, and complete sterility is thus ensured. The advantage of the phial package is that any dose, however small, can be given without waste. Beginning the treatment with 1 c.c. doses (which is now recommended) and gradually working up, five or even more doses may be obtained from one 10 c.c. phial.

Dosage of Phylacogen.

Our book, "The Treatment of Rheumatic Infections," gives particulars of a considerable number of cases of sciatica treated with Rheumatism Phylacogen, and we shall gladly send you a copy on request.

Yours respectfully,

PARKE, DAVIS & Co.

50, Beak Street, Regent Street, London, W.

A CASE OF

GONORRHŒAL FOLLICULAR URETHRITIS.

Treated by COLLOIDAL IODINE.

BY MARCEL DESCHAMPS,
LATE HOUSE PHYSICIAN, ASSISTANT TO DR. BAZY, OF THE "HÔPITAL BEAUJON"; AND
JEAN PERIGAULT,
LATE HOUSE PHYSICIAN OF THE INFIRMERIE CENTRALE DES PRISONS.

THE spread of the gonococcal infection to the follicles of the urethra produces lesions the refractoriness of which is often the despair both of the patient and of the medical attendant; the relatively rapid cure of a case of suppurating and fistulous folliculitis which we have achieved by means of simple medical treatment seems to justify our publishing the following:—

The patient, aged twenty, presented himself at the special department for the treatment of urinary diseases of the Beaujon Hospital on the 20th November, 1913. This patient had been suffering from gonorrhœa since the 20th of October, and had treated himself without success with potassium permanganate irrigations.

On the lower surface of the penis and in its middle portion there was a hard tumour as thick as a nut. This tumour was only painful during erection. The urethral discharge showed abundant gonococci.

We at once submitted our patient to a course of Nicholle's anti-gonococcal vaccine, of which he received a daily injection according to the rules laid down by the author, the treatment being kept up for eleven days.

This treatment exerted no influence either on the discharge (which in no way diminished in intensity) nor on the folliculitis, which progressed in the ordinary manner towards suppuration and culminated in discharging by several small apertures on the 25th of November a sero-purulent fluid which, when examined microscopically, proved to contain gonococci. During the days that followed no change whatever could be found in the urethral discharge; the folliculitis underwent softening, discharging very slowly its sero-purulent fluid. At the same time, a track of lymphangitis appeared on the right side of the penis, an indurated strand being noticed on palpation; the patient was in fact, whilst undergoing treatment, passing through an attack of lymphangitis of the main lymphatics.

On the 30th of November the glandular and lymphatic induration had increased; the temperature had reached 38° C. On the 3rd of December the condition had remained stationary, and the patient was treated by means of extensive irrigation with oxy-cyanide. Though continued up to the 22nd of December, these irrigations did not succeed in drying up the discharge, which had become an obstinate gleet. The folliculitis remained the size of a hazel-nut, hard, and always discharging sero-purulent fluid through the fistulæ; it remained in this condition without any change of consistence, and manifested all signs of chronicity.

We then commenced treatment by means of Colloidal Iodine, injecting it into the anterior part of the urethra to the level of the folliculitis. On the 3rd of January, though the folliculitis did not appear to have been influenced, the discharge had considerably diminished. From this time onward the illness distinctly took a turn towards cure, and the folliculitis commenced to ameliorate, whilst the discharge dried up and the fistulæ closed spontaneously.

On the 15th of January the folliculitis had completely disappeared; seventeen days after commencing the Colloidal Iodine treatment no trace of induration remained; palpation of the urethra on a Benique showed that the canal was absolutely supple, and showed no trace of follicular abscess. **Complete absorption had taken place without the least trace of cicatricial tissue.**

We employed a preparation of Colloidal Iodine obtained by electro-chemical means, and rendered stable by a carbohydrate (Iodargol). Our preparation gave a titre of 20 cg. of Colloidal Iodine to the cubic centimetre. The injection of this product never was in the least painful; it has besides been possible to demonstrate in other cases of gonorrhœa treated by the same method that the pain on micturition disappeared in the course of the acute stage, and the latter is also shortened considerably by injections of Colloidal Iodine.

We have administered doses up to from 2–5 cc. without any bad effects either local or general being produced. It is, in fact, known that iodine when brought into the colloidal state increases its action tenfold and diminishes in toxicity to the same amount.

Nevertheless, we have been satisfied in keeping to doses of 2 cc. (i.e., 40 cg., 6 grs., of Colloidal Iodine), since the higher doses do not seem to us to produce any greater therapeutic effects. The injection was retained by the patient for two hours by means of a constricting dressing which prevented the fluid from escaping.

It has seemed to us of some interest to report this case on account of the result obtained, and above all on account of the means employed for attaining it; for follicular abscesses of gonorrhœal origin, however they may start, always sooner or later acquire chronic symptoms, and we have never so far seen any but surgical treatment leading to a certain cure.

The disinfection and incision of the abscesses from the urethral side, massage after Benique's method, have never led to complete absorption of the lesions. Whenever one has tried to treat the folliculitis in its initial stage, before it has passed on to softening, it should be removed in as aseptic a manner as possible without being opened; if it has suppurated the pocket should be freely opened and disinfected; if it has assumed a cystic appearance, after cooling, it should still be removed surgically. Such is the regular course taken by all experienced practitioners.

The success which has attended our urethral dressings with Colloidal Iodine seems to give some promise that the necessity for the radical methods of surgical treatment we have above enumerated in cases of urethral folliculitis of gonorrhœal origin may be somewhat reduced.

REVUE DE THERAPEUTIQUE MEDICO-CHIRURGICALE,
15th February, 1914.

COLLOIDAL IODINE IN GYNÆCOLOGY.

What is an Ovule?—In gynæcological practice Ovules are regarded with great favour. These products, consisting of solidified glycerine in which some medicament has been incorporated, possess the advantage that such substances can be kept in contact with the diseased part for several hours. The selection of the medical substance to be incorporated is therefore of great importance.

Iodine could not be employed.—The most efficacious of active substances, iodine, could never be used in Ovules until we had completed our researches. The reason was that metalloidal iodine rapidly decomposed the glycerine and formed with it an irritant mixture which was absolutely unsuitable for therapeutic purposes.

We have realised this possibility.—Converted into a colloidal state and rendered stable by a carbohydrate iodine may be incorporated with glycerine, without any change taking place in it even after a period of several years. (We have samples of Ovules which are absolutely pure after two years.)

Therapeutic value of the Ovules of Colloidal Iodine.—Our Ovules contain 1·50 grm. (22 grs.) of Colloidal Iodine and possess a far higher antiseptic value than the old-time ovules containing 0·50 grm. (7 grs.) of the active substance to the unite volume.

This high dosage of iodine, which is due to the latter being in the colloidal state, far from producing any irritant action, enables our Ovules:

To lessen the pain, rapidly reduce congestion ..... and, further, gives to them considerable cicatrising power.

FREE SAMPLE of IODARGOL and IODEOL PREPARATIONS, with Literature, on application to E. VIEL & CIE., 118, HOLBORN, E.C.

THE LANCET.

LONDON: SATURDAY, MARCH 14, 1914.

Legislation for Inebriates.

THE report of the inspector under the Inebriates Act for the year 1912 differs from its recent predecessors in being not merely a record of work during the particular period to which the report nominally refers, but rather a general survey of the whole question of the legal control and treatment of habitual drunkards. As Dr. R. W. BRANTHWAITE points out in his introductory letter, such a review of the problem is peculiarly opportune at the present moment, when further proposals are being brought forward to strengthen and extend the application of the principle of restraint as a curative method in dealing with the inebriate; and in the discussion of these proposals the concise account of previous legislative experiments given in the inspector's report should prove useful and convenient.

Dr. BRANTHWAITE very rightly lays much stress on the importance of following the guidance of science in framing practical measures for the treatment of the inebriate; and with this consideration in view he devotes the first part of his report to a statement of the theoretical conceptions regarding inebriety which, in his opinion, are most generally accepted by those who take a scientific interest in this question. In substance, his view is that the inebriate—a term which he uses as synonymous with habitual drunkard, chronic alcoholic, or dipsomaniac—is an abnormal being, "the victim of a psycho-neurotic fault that implies a defective power of resistance to the action of alcohol or drugs, in exactly the same sense as tubercular tendency implies impaired resistance to the specific infection of that disease." We need not stop to consider how far the parallel which this quotation suggests between intolerance of alcohol and susceptibility to microbic infection may be open to criticism; it is sufficient to note that the criterion of inebriety adopted by Dr. BRANTHWAITE is a psycho-neurotic peculiarity shown in the tendency to react abnormally to alcohol. As a similar tendency, however, is met with in most conditions of nervous instability, and as there is no adequate clinical evidence to show that, when observed in drunkards, it presents any special characteristics, or that it ever occurs in such patients without other indications of defect or deviation, it is difficult to see any reason for regarding this sort of inebriety as anything more than a symptom of mental deficiency. No one will be disposed to question this conclusion so far as it applies to a certain category of inebriates, and more particularly to the large majority of individuals committed to reformatory detention under the Inebriates Act of 1898. But it would be an obvious fallacy, and a fallacy pregnant with very serious consequences in practice, if it were to be assumed that this narrow definition of inebriety covers all the cases of alcoholic intemperance which come within the purview of medicine and for which there is need of a State system of institutional care. As a matter of fact, pathological drunkards of this special type are relatively few in number, compared with the more normally constituted individuals in whom intemperance has developed as a result of environmental conditions; and, moreover, it is to these latter cases of environmental alcoholism that institutional treatment can be applied with most prospect of real and permanent effect. It is the more necessary to bear this fact in mind because there is at present an undoubted tendency to adopt the view that inebriety, the inebriety which has been made the subject of special legislation, is essentially an expression of an adherent defect in mechanism. There is always a temptation to apply to bio-social problems the easy hypothesis of a specific innate tendency and to explain crime, or inebriety, or prostitution, by a criminal, or an inebriate, or a libidinous, diathesis; and in the case of inebriety this spirit of *a priori* speculation has been so strong that it has moulded the character and influenced the administration of the legislative measures designed to deal with the habitual drunkard. As a result, the operation of the Act of 1898 has been almost entirely confined to individuals of the defective and degenerate class; and by a species of vicious circle the observation of such cases in inebriate reformatories and homes is now taken as a basis of argument, and has been accepted as giving an *a posteriori* proof of the original assumption that an inherent morbid tendency is the essential cause of alcoholic excess.

What makes this point of practical importance is that it goes to the root of the whole principle of State control of the inebriate. If inebriety is merely a manifestation of mental defect, then the inebriate is a proper subject for detention in an institution for the feeble-minded; the casual predominance of a single symptom—and that is all that inebriety means in such cases—can hardly necessitate treatment in a special reformatory; more particularly having regard to the small prospect of real gain, whether to the individual or to the community. On the other hand, a specially organised system of institutional care may reasonably be advocated for cases of environmental alcoholism. Such cases are certainly curable in the early stages of the alcoholic habit; they require special and individual treatment, and the expense of such treatment is justified by the restoration to society of useful citizens. Up to the present the legislation for inebriates has almost entirely failed, so far at least as its compulsory provisions are concerned, to reach this class of environmental alcoholics, and to this fact is largely due the public scepticism with regard

to the utility of restraint as a curative measure. How limited the operation of the Act of 1898 has been in this respect is strikingly evident from the figures given in Dr. BRANTHWAITE'S report, from which it appears that during the 14 years the Act has been in force the total number of persons committed to reformatories has amounted to no more than 4280; and of this number only 756 were males, though alcoholism, and more particularly industrial alcoholism, is notoriously far more prevalent amongst men. The analysis of the different offences committed by these criminal inebriates is equally instructive from this point of view. To quote one illuminating example, we find that homicidal crime, the form of delinquency most characteristically related to alcoholism, was the ground of committal under the Act in exactly six instances in 14 years.

The conclusion to which the foregoing considerations must lead us is fairly obvious. The time has come for modifying very largely the direction and methods of the State control of the inebriate. The scope of legislation to that end should no longer be restricted to the congenital defective in whom inebriety is but one of many symptoms of debility and for whom there now exist other and more suitable methods of control; it should be directed to reach the chronic alcoholic whose organic disorders are the consequence of his intoxication and not the primary cause of his habit. These are the inebriates who are capable of reform, and they are also the inebriates whose intemperance represents the greatest positive and negative danger to society. But if legislation is to reach this class there must be some readjustment of our ideas on this question, and it will be necessary for those who are responsible for framing and administering the law with regard to inebriates to take a wider view of the problem, and not to answer all criticisms with such phrases as the "specific drink crave" and the "inborn tendency to inebriety."

Infantilism and Arrested Development.

IN all ages philosophers have tried to satisfy man's curiosity about himself by providing answers to his queries, Whence came I? Whither do I go? Lately man has begun to ask further questions, and the medical profession has been getting ready to answer him. He wants to know, amongst other things, why and how he grows from infancy to man's estate, a problem which clearly belongs to the domains of science rather than to those of philosophy or of religion. As yet science can answer but few of the conundrums which the phenomena of growth and development, witnessed throughout the animal kingdom, provide for solution. But certain rays of light have penetrated lately the darkness of our ignorance upon these matters, and a survey of what has been disclosed thereby is exceedingly valuable at this stage of progress. In his Hunterian lectures[1] on Infantilism Mr. HASTINGS GILFORD draws attention very appropriately—for we know that JOHN HUNTER was deeply interested in gigantism and similar anomalies—to certain pathological aspects of growth and development in the human race. The study of these is most important for the right understanding of the normal processes. There are two main avenues of scientific advance which have provided ways of access to these recondite mysteries. One is that which has been opened up by the study of eugenics, and especially by the labours of Professor KARL PEARSON and his school. The other is that provided by researches into the functions of the ductless glands, and into hormones, internal secretions, and similar bodies. The result of these investigations, and of the interest now taken in problems of growth, is that Mr. GILFORD has been able to propound a somewhat elaborate classification of infantilism, and to indicate the leading features which distinguish the different classes and subclasses from one another. It is quite probable that a good deal of this classification may have to be reconsidered, perhaps even abandoned, in a few years' time; but for the present it is a distinct step in advance simply to possess a tentative system by which the study of infantilism and allied disorders can be furthered, and by which different workers can correlate their observations made under varying conditions.

Mr. GILFORD begins with a very clear and necessary definition of infantilism and of the difference between it and dwarfism. The latter word implies merely conspicuous delay or arrest of growth, the former a similar imperfection of development. One, as he justly remarks, is purely quantitative; the other, qualitative. General infantilism usually, but not necessarily, connotes dwarfism also, and many dwarfs are infantile in some respects. But the conditions are distinct, and need not be coexistent. The complete classification of infantilism now put forward begins by separating off *evolutionary* or *phylogenetic* infantilism, which is that of immature or degenerate races. *Developmental* infantilism is the other main genus, and can be divided into the infantilism of *cells*, of *organs*, and of the *individual* as a whole. It is the latter which possesses the greatest interest, and requires further subdivision. Mr. GILFORD begins his classification of individual infantilism by explaining the difference between a fluctuation and a mutation. The former is a lesser degree of variation from the normal than the latter, which corresponds rather to what breeders know as a "sport," and which has been made familiar to us all by recent work in biology and heredity. The difference is quantitative rather than qualitative; and since there is no hard-and-fast distinction, it is evident that borderline cases must exist. Classification is further complicated by Mr. GILFORD'S unproved assumption that a fluctuation is a variation

[1] THE LANCET, Feb. 28th, 1914, p. 587; and March 7th, p. 664.

which can be attributed to definite causes, whereas a mutation cannot be explained except by the catchword of heredity. It is doubtless true that most cases of *symptomatic* infantilism—that is, infantilism which can be ascribed in part at least to causes other than heredity—are of lesser degree than those of *essential* or *idiopathic* infantilism, which is independent, so far as we know, of environment. To that extent the identification of symptomatic with mild, and of idiopathic with severe infantilism may be useful; but it does not afford a sound basis for a scientific classification, and appears to be dangerous in consequence. Symptomatic general infantilism may be *toxic*, *correlative*, or *deprivational*. Such poisons as those of syphilis, tuberculosis, malaria, and as yeast, opium, tobacco, lead, and mercury are cited as competent to produce the first of these varieties. Correlative infantilism may be due to disorder of some endocrine organ, as, for instance, cretinism following atrophy of the thyroid gland; or may be correlated with achondroplasia, muscular dystrophy, amentia, or similar defects in a manner which defies closer analysis. Deprivational infantilism is not definitely admitted to exist; indeed, Mr. GILFORD inclines to believe that infantilism cannot be produced by deficiency of food in quantity or quality.

Essential infantilism occurs in two separate varieties—ateleiosis and progeria. The former is infantilism pure and simple; the latter is infantilism with superadded premature senile decay. These two extraordinary conditions have attracted much attention in the past few years, and their leading features have been described by several authors. Of ateleiosis, indeed, subspecies are recognised, according to the age at which the symptoms begin and to the sexual or non-sexual character of the infantilism. The consideration of this type of arrested development, which Mr. GILFORD regards as a throw back to some ancestral form, leads him to some interesting speculations concerning the descent of man and his evolution from non-human progenitors. It leads him also to a survey of ateleiotic cases, from which it can easily be seen that in many of them there is ground for suspecting endocrine deficiencies of various kinds. More than that, he frankly admits that in some cases it is difficult to make out whether ateleiosis or some endocrine defect—e.g., cretinism—is responsible for the infantilism. This surely demonstrates that there is no valid distinction between symptomatic and essential infantilism, and that the objection on logical grounds to a hard-and-fast distinction between them is borne out in practice. Nevertheless, ateleiosis is a useful label for a group of cases sufficiently alike to be provisionally classified together. The characteristics by which they can be identified are set forth by Mr. GILFORD with much clearness; and, indeed, he handles the whole subject of infantilism with a grasp and intimacy which will, we are certain, be of great value to his readers. His contributions to the study of infantilism had already clearly marked him out as a high authority on the subject, and that position he has now consolidated in these valuable Hunterian lectures.

Annotations.

"Ne quid nimis."

AMBULANCE SERVICE FOR THE METROPOLIS.

THE General Purposes Committee presented to the London County Council on March 10th further details of the proposed ambulance scheme for the metropolis, which has been in preparation since the Council decided that it could not accept the assistance of the Metropolitan Asylums Board.[1] The committee stated that the scheme now put forward could only be a tentative one, providing a service which in the future might be augmented or varied as experience might direct. The committee reaffirmed the opinion to which it has lately come, that existing appliances could only be used as supplemental to a service to be established by the Council, which must meet by itself the primary needs of the public. The committee gave some interesting figures supplied by the Commissioner of Police, showing the number of accidents and cases of illness in the streets during each of the 24 hours in the months of September, October, and November, 1913. It appeared that the greater number of accidents occurred during the luncheon hours and during the period from 5 to 7 P.M. The total number of cases in the three months were: Accidents, 4434; cases of illness, 1309. Without taking into account cases conveyed by the police to local doctors, of which no statistics were available, or accidents in factories and workshops, estimated by the Home Office at from 8000 to 10,000 per annum, the number of cases of accident and illness was estimated at 20,700 a year. The committee therefore proposed to provide for an estimated number of 27,700 cases, but as the dangers from street traffic were exceptionally great in London it was likely that this limit would be greatly exceeded. The scheme outlined by the committee provided for control by the fire brigade department, subject to the advice of the medical officer of health on medical questions. Six stations would be provided, three north and three south of the Thames—viz., at Fulham; Devonshire-mews, Harley-street; Shoreditch; Southwark; Lee, S.E.; and Brixton-hill, Lambeth. Each station would have one ambulance, except Shoreditch, which would have two. Temporary iron buildings would be provided so that removal would be easy if experience showed that better sites were possible. From these stations the committee believed that all parts of the county could be served. The ambulances would be petrol driven, as electrically propelled ones would not be suitable where the neighbourhood was hilly or long distances had to be covered. After exhaustive consideration of various types of stretcher appliances the committee decided in favour of the collapsible dhooly as used in Glasgow, with the addition of an attachment, only used in Glasgow at the Royal Infirmary, to keep the canvas rigid. Each ambulance would be equipped also with a plain board stretcher for use in cases such as fractured pelvis, where a collapsible stretcher might cause harm. In the ambulance itself a spring mattress covered with air beds would

[1] THE LANCET, Dec. 20th, 1913, p. 1786.

be provided. For the purpose of calling the ambulance the committee considered the existing telephone facilities would be sufficient, and it was hoped that residents whose premises were connected with the telephone system would place their telephones at the service of a constable in uniform, the houses of such residents being indicated, perhaps, by the attachment of a small notification plate. The committee asked for authority to proceed with a scheme on the lines indicated above, and received it after considerable debate.

THE RELATION OF SPEECH TO INTONATION AND RHYTHM.

The question has frequently been discussed whether intonation is an integral or an independent element in articulate speech. The matter is only part of a wider subject—viz., the nature of the relations between articulate speech and the appreciation of tone and rhythm, as well as the expression of tone in singing speech. Cases have been recorded where patients suffering from motor aphasia have been able under the influence of musical stimuli to articulate words in song that otherwise they could not articulate at all. It is generally recognised, in fact, that normal individuals can often remember the words of a song only by singing the air. Sir William Gowers has somewhere said that the words of a song do not constitute articulate speech in the ordinary sense; they are merged in the melody and appear as its completion. There is an intimate association between articulate speech and musical tones. In one of his charming neurological lectures the late Professor Brissaud remarked that "le langage quel qu'il soit, n'est donc pas seulement parlé, il est chanté. Une phrase articulée a toujours sa melodie characteristique suivant qu'elle exprime la surprise, la colère, la joie, l'indignation, le doute, &c." He held that intonation is an earlier acquisition than articulation in the function of speech, and therefore that an intonation aphasia is not likely to be met with. This evolution theory finds apparent support in the facts that some idiots who cannot articulate can compose melodies, and that infants can reproduce melodies while they cannot form words. The late Professor Ballet thought that the expression of emotion, the elaboration of tone, and the articulation of words were three stages in one and the same process. There is no doubt that disturbances in the function of intonation, impairment of the appreciation of rhythm, and, generally, amusia, are closely associated with aphasia, and can be best understood by reference to the methods of investigation of that complex symptom. Nevertheless, the simplicity of the evolution theory constitutes perhaps its sole claim to consideration, and as yet no satisfactory hypothesis has been advanced to explain the facts which clinical observation discovers. There appears to be both a motor and a sensory defect of intonation, as well as a motor and a sensory arrhythmia. Isolated impairment of intonation, of appreciation of tone, or of rhythm may certainly occur, but whether these have independent localisations is a matter difficult of decision. In the *Neurologisches Centralblatt* for March 1st Dr. K. Agadschanianz, of St. Petersburg, has discussed the whole subject in a lucid fashion, and has described two cases at some length. In one of these a patient of 62 had a slight stroke producing hemiparesis of the left side. He had formerly been a good violin player. On examination he was found to have vocal and instrumental motor amusia, sensory and motor defect in the matter of rhythm, and incomplete word deafness and melody deafness. The second case was that of a doctor of medicine, aged 50, who had been a fine piano player. After a stroke involving the right side, probably of syphilitic origin, the paralysis cleared up entirely, but when he was examined subsequently the following condition was found. There was no instrumental amusia, but he could no longer sing, although he could speak. He understood spoken words imperfectly, but much better than familiar melodies played in his presence. Similarly he repeated spoken words much better than melodies played over for him; there was gross defect in the appreciation and reproduction of rhythm. Cases of this description do not support the evolution theory which makes articulate speech a more recent acquisition than emotional speech. It is probable that the two are anatomically independent, as they are psychologically. Th e is, further, some evidence to associate these faculties of rhythm and tone appreciation and expression with a localisation in the temporal lobes, a large cortical area the functions of only a small portion of which have been satisfactorily elucidated.

THE TREATMENT OF STERTOR.

A recent correspondence in the *Times* upon the subject of the "pains of death" brought to light a good deal of evidence in favour of a view which most practitioners of medicine early become impressed with—namely, that the apparent respiratory distress, which in a proportion of cases precedes death, is not in itself at all a painful experience to the patient. This view is one which anxious relatives often find it hard to credit, in face of the obvious dyspnœa exhibited by the sick person; they scarcely dare to believe an opinion to that effect expressed by the medical attendant, consolatory though it would be. The most nerve-racking form of this phenomenon is the noisy stertor familiarly known as the "death-rattle," though in fact it often does not denote speedy dissolution, nor, indeed, necessarily a fatal result at all. There is nothing in this form of respiratory difficulty which especially characterises the ebbing of life. Exactly similar noises are heard in the breathing of apoplexy and of cerebral tumour, in cases of drowning and of recovery from anæsthesia, and in several other conditions; and the exciting cause is usually the same—that is, a partial obstruction of the airway by loss of tone in the tongue and soft palate, with accumulation of mucus or other fluids. For pointing out the essential similarity of all these conditions the public and the medical profession are indebted to Sir Henry Morris, who has increased the obligation by emphasising the teaching of the late Dr. R. L. Bowles on the correct treatment of this form of stertor. It is a curious thing that Dr. Bowles's advice to place patients thus affected on their side, instead of allowing them to remain supine, and if necessary to hold forward the jaw, is so frequently neglected by medical men and nurses in the case of the dying; for it is universally taught as correct treatment during recovery from anæsthesia and in apoplexy. In the case of the stertor of those *in extremis*, this treatment is of service only in that it relieves the nervous strain upon the watchers in the sick room, already severe enough when a beloved relative or friend is crossing the bar. Even

so, it is so simple and efficacious that it deserves to be more widely known and practised. There is, moreover, the further point that it may actually save life, though such cases must be rare, apart from those other conditions, such as apoplexy, in which its value is admitted by the medical profession. In this latter state, it is relevant to observe, the importance of Bowles' postural treatment is officially taught to every member of an ambulance first-aid course; so that there should be a considerable number of the general public to whom it is perfectly familiar.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

WE are asked to state that hospitals in the County of London, or within nine miles of Charing Cross, desiring to participate in the grants made by this Fund for the year 1914, must make application before March 31st to the honorary secretaries, 7, Walbrook, E.C. Applications will also be considered from convalescent homes which are situated within the above boundaries, or which, being situated outside, take a large proportion of patients from London. Applications will also be considered from sanatoriums for consumption which take patients from London, or which are prepared to place beds at the disposal of the Fund for the use of patients from London hospitals.

THE NERVOUS COMPLICATIONS OF VARICELLA.

VARICELLA is usually regarded as a trivial disease, but occasionally it is accompanied by as grave complications as may occur in the other exanthemata. In the *British Journal of Children's Disease* for January Dr. Reginald Miller and Dr. James A. Davidson have contributed an important paper on the nervous complications, which are so rare that they are not mentioned in the majority of descriptions. They consider that there is good evidence that focal lesions of the central nervous system (encephalomyelitis) may occur. They report the following case of encephalitis. A boy, aged 2½ years, had a mild attack of varicella, in which the temperature did not exceed 100° F. On the fifth day he was found to be unable to stand or to talk distinctly, and there was some tremor of the limbs, head, and tongue. The tremor of the tongue passed off quickly, but four days later tremor was marked in the limbs. It was a slow rhythmic movement which prevented him from standing without support. The movements of the limbs were slow and stiff. The child was irritable and emotional. The reflexes were normal. The tremor in a few days gradually diminished until it was noticeable only during excitement and at the end of the month had practically disappeared. The child completely recovered but was thought to be more excitable than previously. Dr. Miller and Dr. Davidson considered that the symptoms were due to a destructive lesion of the cerebello-rubro-spinal system. A similar case has been reported by Caccia. A boy aged 3 years developed tremor on the fifth day of varicella. Its onset was preceded by two days' vomiting. He was unable to stand erect and speech was slow. Ankle clonus, increase of knee-jerk, and extensor plantar response were present on the right side. The cerebro-spinal fluid was sterile but contained 0·3 per cent. of albumin. After four weeks all the symptoms had disappeared. Caccia attributed them to encephalitis of the left cerebral hemisphere. Marfan has reported a case of varicella complicated by encephalitis affecting the oculo-motor nuclei, and Sir William Osler one complicated by hemiplegia. Poliomyelitis and peripheral neuritis have been recorded as complications, but the evidence is not altogether satisfactory. The occasional association of varicella with herpes zoster has been described by several writers. Other nervous complications recorded are convulsions, intracranial complications of otitis media, optic neuritis, hæmorrhagic pachymeningitis, and neuromyositis. Chorea has been noted to develop at the end of an attack of varicella, and tuberculous meningitis has been recorded as a sequel.

THE INTERNATIONAL CONGRESS FOR NEUROLOGY, MENTAL DISEASES, AND PSYCHOLOGY.

OUR Bern correspondent writes that this congress will be held in Bern from Sept. 7th to 12th. The invitations for the congress are just being issued. The committee of organisation is presided over by Professor Du Bois, of Bern. Dr. Schnyder, Monbijoust. 31, Bern, is secretary, and will receive all applications of intending members. The fee is 25 francs and will include the official report. Facilities for railway travelling will be offered and arrangements made for trips in the most beautiful parts of Switzerland. Twenty-nine countries have declared their adhesion to the congress and have appointed delegates. The list of distinguished neurologists and psychologists who will open the debates is already complete and includes the following names: Professors Alzheimer, Ramon y Cajal, Sherrington, Pierre Marie, Donaldson, Edinger, Ehrlich, Mingazzini, von Stauffenberg, Biedl, Dejerine, and Oppenheim in the Neurological Section; Professors Gaupp, Gilbert Ballet, Strausky, Tamburini, Bechterew, Lépine, Isserlin, Redlich, Abderhalden, and Binswanger in the Psychiatric Section; and Professors Mott, Ladame, Ziehen, Morton Prince, Sante de Sanctis, and Imey in the Psychological Section. As 53 of these and their colleagues will speak on 11 neurological, 8 psychiatric, and 7 psychological subjects, only a limited number of special papers can be read, and these must be announced to the secretary by July 1st. The Swiss National Exhibition, which takes place this summer in Bern, affords an extra attraction. The President of the Swiss Republic is honorary President of the Congress.

HERPES SUPRALARYNGEUS.

UNDER this appellation Dr. Vittorio Grazzi, professor of laryngology in the University of Pisa, draws attention in a recent number of *Il Policlinico*[1] to an unusual form of herpes localised in the glosso-epiglottic folds, the free edge of the epiglottis, and the upper parts of the larynx. He quotes Morell Mackenzie and StClair Thomson as having on very rare occasions observed herpes in the upper parts of the larynx, and he has himself only seen four cases, three of which had not previously been diagnosed. Usually there are manifestations of herpes in other parts of the body, but the condition may be limited to the laryngoscopic region, while the fauces may not even be congested. The course of the disease is five or six days, and a prominent symptom is the severe burning pain, which is increased by deglutition, coughing, and speaking, so much so that one of the patients in order to satisfy his urgent craving for water was obliged to

[1] Il Policlinico, Anno xxi., Fasc. 8, Feb. 22, 1914, Roma.

take up a position with head hanging over the edge of the bed and suck up the liquid through a straw. The diagnosis of this extremely rare condition is easy if there are other herpetic manifestations on the body, but in their absence the superficial character of the abrasions, their somewhat grouped arrangement, and absence of submucous infiltration, should be taken into account. The treatment adopted by Professor Grazzi was entirely symptomatic, and consisted in the direct application of ethereal solution of iodoform and alkaline inhalations with cocaine and menthol.

CASES OF SUPPOSED SYPHILIS HAVING PYREXIA AS THE ONLY CLINICAL SYMPTOM.

WRITING to the *Wiener Klinische Wochenschrift* Dr. Kraus makes the announcement that from observation of the inmates of a sanatorium for tuberculous patients he has come to the conclusion that there exist cases of a peculiar type which are commonly regarded as tuberculous, but are in reality syphilitic. The patients show intermittent pyrexia resembling that of pulmonary tuberculosis, with an occasional day or two of complete apyrexia The pulmonary symptoms found on examination of the chest are insignificant and do not correspond in their intensity to the severity of the pyrexia. There are generally loss of flesh or even emaciation, a slight hacking cough, and "hectic fever" lasting for months without being influenced at all by antipyretics; there are no direct symptoms of syphilis, but the Wassermann reaction is positive and antisyphilitic treatment causes a sharp rise of temperature, followed by a rapid and definite return of normal temperature. The patients generally have not had any marked symptoms of syphilis, and they may even be unaware that they have been infected. Dr. Kraus states that he discovered the first case by accident, but when searching later on amongst the cases he found three more within one year in the limited number of private patients admitted to his sanatorium. He says that he is not prepared to explain the pathology of this type of syphilitic manifestations, but wishes to draw the attention of the profession to a condition which appears to him to be by no means rare.

"THE FAMILY ENCYCLOPÆDIA OF MEDICINE."

AT a meeting held on Wednesday, March 11th, of members of the medical profession whose names have been associated with the recently published "Family Encyclopædia of Medicine" the following statement was, we are informed, unanimously agreed to:—

"As prominence has been given to our names in the advertisements of a book entitled 'The Family Encyclopædia of Medicine,' we desire to state—

1. That we are in no sense responsible for the plan or the scope of the book in question, or for the manner in which it has been introduced to the public.

2. That our sole connexion with it consists in our having obliged a fellow medical man by agreeing to correct, at his request made to us individually and privately, certain articles which he had in preparation for a book on domestic medicine.

3. We never gave authority for the use which has been made of our names.

We may add that we have received assurances from the editor and publishers of the book in question that our names will be removed from such future numbers as are not already in print.

It is needless to add that in no case was there any pecuniary consideration."

We understand that the legal position is still under consideration.

IT may seem rather premature to mention now the election for the Council of the Royal College of Surgeons of England which will not be held for three months, but the matter has been brought to public attention in more than one way. Mr. C. A. Ballance, Sir Henry Morris, and Mr. Richardson Cross are the three retiring members of the Council, and the latter two are, we understand, not presenting themselves for re-election. Another member of the Council, Mr. Jonathan Hutchinson, is retiring out of his due turn owing to pressure of hospital work. Already several candidates have announced their intention of standing, and these include Mr. W. G. Spencer, Mr. W. McAdam Eccles, Mr. William Thorburn, Mr. Stanley Boyd, and Mr. H. S. Pendlebury.

THE complimentary dinner to Surgeon-General Gorgas, which will be held on Monday, March 23rd, at the Savoy Hotel, London, W.C., will afford a great opportunity for the medical profession of this country to manifest their admiration for the scientific and administrative work which has made the opening of the Panama Canal possible. Sir Thomas Barlow will preside, and will be supported by Lord Bryce, Mr. Lewis Harcourt, and a highly representative body of medical men. Applications for tickets, price 25*s.* (with cheques), should be made to Mr. J. Y. W. MacAlister, at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W.

THE Fothergillian gold medal of the Medical Society of London for 1914 has been awarded to Dr. J. George Adami, F.R.S., professor of pathology in the McGill University, Montreal, for his work on Pathology and its Application to Practical Medicine and Surgery. It is hoped that Professor Adami will be present to receive the medal on the occasion of the conversazione on Monday, May 18th.

THE next meeting of the Medico-Legal Society will be held at 11, Chandos-street, Cavendish-square, W., on Tuesday, March 17th, at 8.30 P.M., when a paper entitled, "Must a Prison Governor keep Prisoners, not merely Safe, but Safe and Sound?" will be read by Mr. Roland Burrows.

AT the next meeting of the Section on Obstetrics and Gynæcology of the Royal Society of Medicine on April 2nd, at 8 P.M., Dr. Amand Routh will open a discussion on the Need for Research in Ante-Natal Pathology.

THE King and Queen will open the new premises of the National Institute for the Blind in Great Portland-street, London, on Thursday next, March 19th.

THE death is announced, at the age of 81, of Sir Francis Xavier Frederick MacCabe, F.R.C.P.I., for some years medical commissioner on the Local Government Board for Ireland.

ANNUAL REPORT FOR 1912 OF THE CHIEF MEDICAL OFFICER OF THE BOARD OF EDUCATION.

(*Concluded from p. 702.*)

Heart Disease and Rheumatism.

THE fifth section of Sir George Newman's report deals with heart disease and rheumatism, and brings out the fact that not enough is done to treat these conditions by school authorities. A very important table resumes the experience of the incidence of heart disease among 136,074 boys and 130,419 girls from 44 school areas, 13 being counties and 31 urban areas.

Organic and functional diseases of the heart are differentiated, and there are found to be 1111 cases of organic defect among boys and 1420 among girls, the percentages being 0·82 and 1·09 respectively, giving a mean percentage for boys and girls of 0·95. The highest total percentage recorded is 3·7 in Radnorshire (the total cases, however, are only 687), but percentages of 2·0 or over are recorded in Bradford, Heywood, Mossley, Rochdale, and Staffordshire. The lowest percentage recorded was 0·1 in Lincoln (total cases only 841), but Nottingham records 0·2 per cent., Plymouth 0 3 per cent., and Cheshire 0·2 per cent. Analyses of cases of organic defect show that in most areas mitral incompetence is most frequently recorded, but in Cambridge and Salford mitral stenosis was most frequent. A fact of very great importance is that only in 10 per cent. of children with defective hearts was any indication of imperfect health given. The indications (as given by Dr. Lila S. Greig, of Staffordshire) of imperfect health in 27 cases were: feeble circulation, 7; irregular attendance at school, 6; œdema, 2; faints readily, 1; pain in chest, 1; dyspnœa, 1; rheumatism, 1; growing pains, 1; and enlarged tonsils, 7.

The difficulty of the differential diagnosis of heart disease is considered with special reference to the work of Dr. H. M. Brown, who investigated 238 heart cases in Surrey, and Dr. H. W. Sinclair, who comments on the problem of the incidence of the malady in Essex. The re-examination of doubtful cases with the aid of the polygraph is recommended by the last-named observer. The correct diagnosis of heart disease is important, not only from the school point of view, but because of the great influence the opinion of a medical inspector may have on the child's future career beyond the school gates. And Sir George Newman recommends that "due weight should be given to the views of Dr. James Mackenzie" as set forward in a paper in the *British Medical Journal* for Dec. 21st, 1912. Dr. Mackenzie emphasises the "youthful type of irregularity" as a condition through which everyone at some time or another probably passes, and that functional murmurs are in themselves quite consistent with perfect health. In fact, according to Dr. Mackenzie, "a murmur or an irregularity is only of significance when it is associated with some manifest impairment of the heart muscle."

The causal connexion between rheumatism and heart disease is well brought out in an investigation of 2575 children between 5 and 13 years of age in Middlesex by Dr. A. Ball, assistant medical officer. 611 of these children had a history of growing pains; 51 others gave a definite history of rheumatism. The rheumatic manifestations included acute and chronic rheumatism, scarlatinal and diphtherial rheumatism, erythema nodosum and chorea. Among the 662 rheumatic children there were 42 cases of organic heart disease, but among the 1913 non-rheumatic children only 16 cases of organic heart disease (congenital disease excluded). The probable causes among the non-rheumatic children were measles, whooping-cough, scarlet fever, and follicular tonsillitis.

It is very important to recognise the insidicus signs of rheumatism in a child, and attention is called to the view of Dr. F. J. Poynton and Dr. A. Paine that the "only evidence of rheumatism may sometimes be a mysterious and persistent fever." But it must be recognised that the normal temperature of healthy children is by no means settled. An investigation by Dr. Alice W. Maclean in Staffordshire suggests that 99° F. is the true mean temperature of the ordinary school child, and that the range is from 97·2° to 100·6°.

Perhaps the most important aspect of the consideration of rheumatism and heart disease from the school medical service point of view is that of prevention; and in the prevention of rheumatism we are forced to rely largely on the education primarily of teachers and secondarily of parents in an understanding of the significance of growing pains, tonsillitis, chorea, and the vague rheumatic manifestations generally. Teachers are put first because it is comparatively easy to arrange for the consideration of rheumatism and heart disease in courses of hygiene for teachers, but the education of the parents must also be undertaken. This can be done by verbal advice at the time of medical inspection (if too many children are not crowded into one session and if parents attend), by distribution of printed matter, and by home visits by the school nurse or local health visitor. But as far as the distribution of printed matter is concerned this is only likely to be of secondary importance, for the reason that most parents will not trouble to read and understand printed medical instructions. Every medical man is familiar with the fact that very many people will not take pains to comprehend such matters as sick club certificates, vaccination papers, and school medical officers' "cards of advice." Although technically able to read, a large section of the population are not able to understand, and the little effort of mental concentration required to read an unfamiliar document is not put forth. This necessitates an educational campaign of oral teaching of parents, and the place where this can be most effectively done is at a school clinic, where the doctor, with the example of the parents' own child before him, will, at any rate, be sure of interest and of an effort at attention. The school teacher can also do a great deal with the parent, and the importance of dry boots and clothes can be usefully impressed in an object-lesson by having a supply of felt slippers and stoves or fires at which clothing can be dried.

How far children with heart disease should be excluded from the ordinary routine of work, exercises or play is a question that must be decided by reference to the commonsense of school life. Thus, as most children with heart disease will have to earn their own living, it is harmful and not helpful to wrap them round with the cotton-wool of invalidism. Strain should be avoided; swimming is usually contra-indicated, for example, and rough play and running up and down stairs carefully supervised, but ordinary Swedish exercises, with certain exceptions involving violent body movements, are good. The teacher must, however, always be on the watch for signs of breathlessness and fatigue. Nothing is said in Sir George Newman's report of an observation that has sometimes been made—namely, that certain children with heart disease are abnormally rough and violent in their play. These cases will prove an extra strain on the teacher. It is also worth noting that one of the manifestations of heart trouble may be bad temper and irritability. As regards treatment, the opinion is expressed that not enough is done by local education authorities, and heart cases almost certainly require more medical supervision than is supplied by the usual re-examination of defective children. An observation clinic is what suggests itself. The report, however, suggests that a residential school of recovery is the best means available for the treatment of heart disease, and hopes that this will have its place in any scheme which is formulated.

School Meals and Nutrition.

The provision of meals for school children is now undertaken on such a large scale that we are justified in forming fairly definite conclusions as to the necessity, value, and limitations of this procedure. We must recognise that while food is the prime requisite for growth and the chief factor in nutrition, stimulation is also required and is chiefly represented by physical exercise and physical training. The beneficial results of open-air schools, for instance, must be ascribed not only to the open-air *régime* and the good food but also to the exercise which is the usual accompaniment of the open-air school routine.

Food and exercise must then be considered, by the school medical officer, together. With regard to the provision of meals the "Board are strongly of opinion that, where the work is regarded merely in the nature of temporary relief to

be administered as cheaply as possible only in cases of extreme poverty, the benefits derived are bound to be insignificant and transitory." The report takes a strong line on this subject and definitely lays down that a feeding scheme should hold in view the permanent well-being of the child, and that the selection of children should depend not exclusively upon the poverty of the parents but upon the malnutrition of the child, this malnutrition being as definite a physical defect as any other which comes within the purview of school hygiene.

Before it is possible for the school medical officer to deal with school meals as one of the agencies under his control for treatment of malnutrition, the following conditions, laid down in Sir George Newman's report, must be complied with. The school medical officer must (1) have the right to nominate children for meals who are suffering from malnutrition due to "insufficiency or unsuitability of food"; (2) be consulted as to dietary provided; (3) have the right of inspecting meals at all stages of preparation and distribution; and (4) be consulted in all questions of doubt as to the necessity for retaining a child on the feeding list owing to its physical condition. That these conditions do not prevail in many places is unfortunately one of the commonplaces of school medical work. The Poor-law aspect of the matter, with a strong dash of the Poor-law spectre "deterence," is all too frequently allowed to dominate the educational aspect. We gather from this report that all over the country the organisation of meals is in an early and primitive condition, although the total of meals given and children fed is a figure of large dimensions. Thus in 1912–13 over 19 millions of meals were given in England and Wales, an increase of more than 2¼ millions over the previous year. The number of children fed was over 300,000, and as there are about 10 per cent. of the total 6,000,000 children in attendance at school, or 600,000 suffering from malnutrition, this figure shows that only half of those requiring food are, in fact, receiving it for longer or shorter periods. Each child fed received on the average something over 60 meals, and the period under consideration included the coal strike, which compelled a number of authorities who had not previously done so to enter upon feeding schemes.

How diverse is the practice of different authorities with regard to provision of meals is seen clearly by a glance at the statistical table which sets forth the total expenditure of those who availed themselves of their powers under the Education (Provision of Meals) Act, 1906. Firstly, the table shows that less than one-third of the 317 authorities availed themselves of their powers. Secondly, of those who did make use of their powers, Keighley, Kidderminster, Mossley, Heston and Isleworth, and Kent spent only £4, £5, £8, £8, and £9 respectively, while London, Bradford, Leeds, East Ham, the West Riding of Yorkshire, and Tottenham spent respectively £44,605, £4139, £3348, £1059, £1437, and £959. It is not possible to draw any very definite statistical conclusion from these tables. But when we add to the divergencies of method our knowledge of the lack of ordered medical supervision of the meals and of their inadequacy from the standpoint of nutrition we have to describe the administration of the Education (Provision of Meals) Act, 1906, as very seriously unsatisfactory and only redeemed from wholesale condemnation by the efforts of such authorities as Bradford, who do try to cope with the existing problem as it stands, and not on theoretical grounds. As to the kind of meal necessary there seems very little doubt. A good midday meal is best and should be physiologically calculated to make up the presumed deficiencies of the diet at other times. Experience in secondary schools confirms this, the London report on secondary school feeding being summed up in the words, "Improvement in physique has gone *pari passu* with the improvement of the midday meal."

Physical Training and Juvenile Employment.

Both with regard to physical training and the employment of children under and just over 14 years the sphere of medical inspection is an obviously enlarging one. Field games, swimming, and remedial exercises are matters especially belonging to the school medical officer's province. But the whole of physical training is or should be within the ambit of the organisation of the school medical service. The section dealing with physical training contains a useful and detailed description of exercises and apparatus (with diagrams), and should help on the movement towards greater efficiency in this branch of teaching.

The section dealing with juvenile employment brings out very clearly indeed the evils of this practice. There are no less than 211,000 children under 14 years who at any one time during the year have obtained total exemption from school attendance, and there are 35,000 "half-timers." Apart from this, however, a very large number of children do some kind of work out of school hours and suffer correspondingly with the nature of that employment and the severity of the labour involved. The effects are so grave that the Board of Education suggest that all employed children should be entered upon a special register and examined periodically by the school medical officer as "specials."

Conclusions.

This report is a great searchlight that flashes into the recesses of our social order, and by enabling us to see clearly and in detail what is wrong gives us the opportunity of doing what is necessary to put the wrong right The whole of the report consists of the two things—a display of existing wrong conditions and detailed proposals for the application of knowledge to put those conditions right. It may be, not improbably, that, in a future which has forgotten the party cries and surface turmoil of the present, the application of science to life, which is the great theme of Sir George Newman's report, may appear as one of the outstanding achievements of our generation.

IMPERIAL BUREAU OF ENTOMOLOGY.

THE Earl of Cromer, O.M., as chairman of the Entomological Research Committee, instituted some years ago,[1] has presented his second report to the Secretary of State for the Colonies (the Right Hon. L. Harcourt, M.P.), and has announced that in future a report will be made every year. The chief feature of the work in 1913 has been the actual establishment of the Imperial Bureau of Entomology. It has consequently been decided to discontinue the use of the title "Entomological Research Committee," as confusion seemed likely to arise from the existence of what were apparently two separate organisations in London working at the same subject. The Entomological Research Committee has, therefore, now become the managing committee of the Bureau, and Mr. Guy Marshall, who held the appointment of scientific secretary to the Entomological Research Committee, has been made director of the Bureau, the expenses of which are met by contributions from the Imperial Government, Canada, India, the Australian Commonwealth, the West African Colonies, Zanzibar, and the other Governments concerned. The whole organisation is singularly comprehensive, and is proving of great utility, not only to countries within the Empire, but also to those without. The "Review of Applied Entomology," issued by the Bureau every month, is making satisfactory progress, and the material available for publication is steadily increasing, more especially on the agricultural side.

The Distribution of the Stegomyia Mosquito.

The Bureau has made considerable progress towards obtaining a complete set of the various laws and regulations against injurious insects which have been promulgated in the British Dominions and colonies, and arrangements are now being made to collate and summarise them in a convenient form. The Bureau has also extended the sphere of its activities in another important direction. Major S. P. James, of the Indian Medical Service, was recently deputed by the Indian Government to visit South and Central America and report on the possibility of yellow fever being introduced into India by the increased traffic across the Pacific Ocean which will inevitably follow the opening of the Panama Canal.[2] It appeared from his report that there is little or no knowledge, not only of a sure method of diagnosing the disease, but also of the presence or absence—and of the distribution if present—in eastern lands of the mosquito which is known to convey the disease (stegomyia fasciata). It also appeared that there is a similar want of knowledge as to whether stegomyia scutellaris, another very widely distributed and abundant species of mosquito of the same genus, carries the disease or

[1] THE LANCET, Sept. 18th, 1909, p. 878; Dec. 7th, 1912, p. 1606.
[2] THE LANCET, Jan. 31st, 1914, p. 329.

not, and as to many other matters of capital importance affecting the etiology and prevention of yellow fever. Should it be necessary, therefore, to deal with an outbreak of yellow fever in a new territory, it is evident that this want of knowledge would greatly hamper and delay efficient and enlightened administrative action. The coöperation of the Bureau was invited on behalf of India and the eastern colonies, and the Bureau has undertaken to collect information as to the distribution of the stegomyia mosquito in the countries which are likely to provide ports of call for vessels from infected districts.

As a preliminary measure the Bureau has asked to be furnished with all information available as to the distribution of mosquitoes generally, and of the genus stegomyia in particular, in the French, German, Japanese, American, and Dutch possessions in the Far East and the Pacific, and to be provided with collections of mosquitoes from these localities. The question of sending out an entomologist specially to collect information in those places from which none can now be obtained may be considered at a later date in the light of the knowledge thus gained. Dr. A. T. Stanton has kindly offered to supply the Bureau with collections and data from the Federated Malay States, and has written to various correspondents in the East asking them to do the same. He is shortly visiting Siam and Indo-China, and will utilise the opportunity to further the inquiry. Mr. J. C. Moulton, of the Sarawak Museum, has agreed to assist in Borneo, and Mr. P. D. Montague, of Cambridge, who has just started on a zoological expedition to New Caledonia, has consented to collect mosquitoes both there and in any parts visited *en route*. In Hong-Kong the medical authorities have already made a preliminary mosquito survey.

Glossina Morsitans.

The committee are also taking steps to render assistance in another important direction. Arrangements have been made with Mr. W. F. Fiske, one of the most capable entomologists lately in the service of the United States Bureau of Entomology, to carry out, under the direction of the Royal Society and at the expense of the Government of Nyassaland, a thorough investigation of the bionomics of the tsetse fly, glossina morsitans. In the first instance, however, he is investigating the allied species, glossina palpalis, in Uganda as a preliminary. The committee, with Mr. Andrew Carnegie's consent, are placing at his disposal one of the scholars who are being trained in American methods of entomology with the help of funds provided by Mr. Carnegie for the purpose. It is to be hoped that this will be the beginning of an organised campaign against the various species of tsetse fly throughout Africa, and the committee are now considering whether they cannot render further assistance by employing the two entomologists who are working under their direction in East and West Africa respectively entirely on investigations connected with tsetse flies. It is clear that the discovery of any effective method of dealing with these flies in Africa would have the most far-reaching effects on the prosperity and progress of that continent.

Other Investigations.

The report gives many further details of the work of the Bureau, and also points out that the question of the identification of parasitic hymenoptera is becoming a pressing one owing to their great importance in the control of injurious insects. Unfortunately, the number of reliable specialists working at these groups is extremely limited, and they already have more work than they can do. The committee therefore propose that one or more of the assistants working under the director of the Bureau should devote themselves to this group of insects. For the identification of the African tachinidæ (a very useful family of parasitic flies) the committee have been fortunate in securing the generous assistance of Dr. Villeneuve, of Rambouillet, who has kindly agreed to name all the material submitted to him.

The Secretary of State for the Colonies, in acknowledging the receipt of Lord Cromer's report, expresses high appreciation of the work of the committee and the rapidity with which it is expanding. He adds that he has readily given his approval to increases of staff recommended by the committee, and takes the opportunity of thanking the trustees of the British Museum for continuing to provide accommodation for the director of the Bureau and his personal assistants.

MEDICAL SOCIETY OF LONDON:
THE ANNIVERSARY DINNER.

THE 141st anniversary dinner of the Medical Society of London was held at the Whitehall Rooms, Hôtel Métropole, on March 4th. The chair was taken by Sir DAVID FERRIER, F.R.S., the President, who was supported by a large company of Fellows and guests. Among those present, in addition to the speakers mentioned below, were Mr. Martindale Ward, Master of the Society of Apothecaries; Surgeon-General Sloggett, Director-General of the Army Medical Service; Colonel Bruce Skinner, Commandant of the Royal Army Medical College; Sir Alfred Pearce Gould, Dean of the Faculty of Medicine in the University of London; Surgeon-General Arthur May, Medical Director-General of the Royal Navy; Sir Richard Douglas Powell; Professor Howard Marsh, Master of Downing; Sir T. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge; Sir John Tweedy; Mr. D'Arcy Power; Dr. J. Mitchell Bruce; Sir R. Havelock Charles; Dr. Samuel West; Dr. F. W. Mott; Mr. C. A. Ballance; and Sir John Broadbent.

After the loyal toasts had been honoured, the PRESIDENT proposed the toast of "The Medical Society of London," which he coupled with the name of Mr. V. Warren Low, one of the trustees. He made allusion to several early patrons of the society—in particular Lettsom, a founder and generous benefactor, and the two Fothergills, John and Anthony. He voiced the regret of the Fellows that through the illness of Dr. F. M. Sandwith, the delivery of the Lettsomian Lectures for 1914 had been postponed until the summer, and announced that the Fothergill Medal had been awarded this year to Professor J. G. Adami, of Montreal, for his researches in pathology as applied to medicine and surgery. Originally, said the President, their membership was confined to 30 physicians, 30 surgeons, and 30 apothecaries; but now, in its 141st year, the society numbered nearly 700.

Mr. WARREN LOW prefaced his reply by maintaining that the records of the society were themselves a better response to that toast than any speech could be. He believed that the Medical Society of London was especially valuable because it provided a common ground in homely surroundings upon which the physician, the surgeon, the general practitioner, and, he might add, the crank could meet and exchange views. He rather deprecated over-organisation and the set discussion wherein the opening speech was often followed by a number of admirable papers quite off the track.

Dr. F. DE HAVILLAND HALL, in submitting the toast of the kindred societies, paid compliments to the 13 presidents who were among them that evening. The friendly competition between their society and the Royal Society of Medicine had been productive of good to them all.

The response was entrusted to Sir Francis Champneys, President of the Royal Society of Medicine, and Earl Russell, President of the Medico-Legal Society.

Sir FRANCIS CHAMPNEYS said that the body which he represented had passed through the storms incidental to the settling down of the 23 amalgamated societies into one working organisation. It was now on the best of terms with the Medical Society of London, which in his matured opinion had done wisely in standing out, for unlike the various constituent societies it was complete in itself and by joining would have disappeared. It was the mother of all the medical societies, and to have swallowed it up would have been matricide and cannibalism.

Lord RUSSELL, in a humorous speech, mentioned the horrible specimens in bottles which were sometimes brought forward by medical members at meetings over which he presided, and the sensational discussions which occasionally embarrassed the mere legal members of the Medico-Legal Society. He concluded by emphasising the need which there was nowadays for the doctor and the lawyer (with whom he included the politician who made the laws) to understand each other better so that they might coöperate for the public good. As an example he quoted the legislative and administrative problems connected with uncertified and uncertifiable lunatics.

Mr. C. B. LOCKWOOD, in proposing the health of the

guests, made brief kindly references to each of the visitors, and in particular spoke of the honour which American surgery had paid to British surgery by asking the President of the Royal College of Surgeons of England to help in the inauguration of the College of Surgeons of America.

Sir RICKMAN GODLEE, in response, said that this was the third time he had had to reply for the guests, and it was impossible for him to make three serious speeches upon the same subject before the same assembly, although the approved American method of after-dinner oratory, consisting of an immediate and abrupt plunge into anecdote, had its difficulties.

The Mayor of Marylebone, the Rev. J. A. BEAUMONT, who also replied, related how he himself had started as a medical student. He looked forward to a working partnership in the future between the priest and the medical man. The association between the two professions, now so much less close than in former days, still held out hope of future possibilities.

The health of the President was proposed in affectionate terms by Professor ARTHUR KEITH, F.R.S., President of the Royal Anthropological Institution. Sir David Ferrier and he were born within a mile of each other, he said, and their President used to be held up to him as a model of what a young man should be. Contrary to what some might have said, Professor Keith was sure that it was an advantage in London to have been born in the North. The toast was warmly received, and after Sir DAVID FERRIER had replied the proceedings closed with a hearty vote of thanks to Dr. R. A. Young and Mr. G. E. Gask, the honorary secretaries, and Mr. George Bethell, the registrar, for their successful efforts on behalf of the society.

ROYAL COMMISSION ON VENEREAL DISEASES.

AT the twentieth meeting of the Royal Commission on Venereal Diseases evidence was given by Mr. C. A. Ballance, chief surgeon of the Metropolitan Police and surgeon to St. Thomas's Hospital.

Mr. Ballance said that the amount of venereal disease among the police was very slight. Formerly police officers reporting themselves sick from venereal diseases were looked upon as defaulters, their pay was stopped usually for a week, and they were generally put on half pay afterwards. In May, 1911, the system was entirely changed, and it was decided that venereal disease should be treated like ordinary sickness. The result has been that most of those affected with venereal disease have reported themselves sick to the divisional surgeon and have not tried to keep it secret. As many cases as can be accommodated are sent to the military hospital, but if that hospital is unable to receive them they are sent to the nearest large general hospital. Mr. Ballance thought that the number of syphilitic patients had increased, but that this was due to the fact that the men appreciated the treatment at the military hospital; he did not think that there was any increase of prevalence of the disease amongst the force. The change of system had had the good effect of securing treatment at an early stage. Out of 83 constables reported as treated at the primary stage at the military hospital only 3 developed secondary symptoms. Out of 116 other consecutive cases only 8 had had clinical relapses. He considered that these figures were quite wonderful.

From his experience at St. Thomas's Hospital Mr. Ballance thought that in recent years there were fewer serious venereal cases than formerly; this he thought was due to the early treatment of the cases instead of their being neglected or untreated, as in the old days. He very much doubted whether the actual prevalence had diminished. Questioned as to the use of salvarsan, he said that in the cases in which he had used it he had never seen any danger arise from it, only good.

Evidence was also given by Mr. Richardson, who said that he was an M.D. of Cincinnati, in behalf of the National Association of Medical Herbalists of Great Britain.

At the twenty-first meeting evidence was given by Dr. Brian O'Brien, medical inspector of the Local Government Board for Ireland. Dr. O'Brien said that for the purposes of his evidence he had visited all the larger towns in Ireland and many of the smaller ones, as well as a certain number of rural districts, and that the impression made upon him was that there was a decline of venereal disease in the country districts and small towns. It was his opinion that venereal disease, syphilis especially, is almost non-existent in the rural portions of Ireland and uncommon in the smaller towns. There was special prevalence in Dublin, and among the causes contributing to this prevalence he mentioned poverty, bad housing, and the fact that Dublin is the refuge of people from the greater part of Ireland who are doing no good for themselves. There was also some prevalence of the disease in Belfast, but to a much less extent than in Dublin. The treatment of the diseases in Ireland at the present time was, he thought, very inadequate. His two main recommendations were that means should be provided for improved diagnosis and that institutional treatment should be subsidised. There would be advantage, he thought, in providing out-patient departments of general hospitals which would be open in the evening, and a considerable number of men might thus be attracted to be treated promptly and efficiently. He was, however, inclined to doubt whether a very large proportion of the women would present themselves for treatment. Dr. O'Brien was opposed to the notification of venereal disease; he did not think that the medical profession would be willing to notify, and if they did fewer people would go to them for treatment.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 97 English and Welsh towns, with populations exceeding 50,000 persons at the last Census and whose aggregate population at the middle of this year is estimated at 18,120,059 persons, 8484 births and 5497 deaths were registered during the week ended Saturday, March 7th. The annual rate of mortality in these towns, which had been 15·6, 15·0, and 15·1 per 1000 in the three preceding weeks, further rose to 15·8 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·7, against 16·5 per 1000 in London during the same period. Among the several towns the death-rate last week ranged from 5·6 in Eastbourne, 8·1 in York, 8·2 in Hornsey, 9·0 in Cambridge, and 9·3 in Willesden, to 21·8 in Ipswich, 22·0 in Bury, 23·1 in Middlesbrough, 24·4 in Warrington, and 24·9 in Rochdale.

The 5497 deaths from all causes were 241 in excess of the number in the previous week, and included 425 which were referred to the principal epidemic diseases, against 397 and 413 in the two preceding weeks. Of these 425 deaths, 134 resulted from whooping-cough, 118 from measles, 60 from diphtheria, 59 from infantile diarrhœal diseases, 34 from scarlet fever, and 20 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week did not exceed 1·2 per 1000, and was equal to that recorded in the preceding week. The deaths attributed to whooping-cough, which had been 129, 110, and 115 in the three preceding weeks, further rose to 134 last week, and caused the highest annual death-rates of 1·4 per 1000 in Tottenham and in Smethwick, 1·5 in Edmonton, 1·6 in Leicester, 1·8 in Devonport, 2·2 in Rochdale, and 2·6 in Darlington. The deaths referred to measles, which had been 89, 115, and 101 in the three preceding weeks, rose to 118 last week; the highest death-rates from this disease were 1·4 in Ipswich, in Nottingham, in Warrington, and in Cardiff, 1·9 in West Ham and in Barnsley, 2·6 in Swansea, and 4·7 in Burnley. The fatal cases of diphtheria, which had been 64, 52, and 72 in the three preceding weeks, declined to 60 last week, of which 16 were registered in London and its suburban districts, and 3 each in Portsmouth, Plymouth, and Birmingham. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had risen from 66 to 83 in the four preceding weeks, fell to 59 last week, and included 23 in London, 5 in Stoke-on-Trent, and 5 in Sheffield. The deaths referred to scarlet fever, which had been 37, 33, and 34 in the three preceding weeks, were again 34 last week; 7 deaths occurred in London, and 3 each in Birmingham, Manchester, and Middlesbrough. The fatal cases of enteric fever, which had been 14, 17, and 8 in the three preceding weeks, rose to 20 last week, of which 4 were registered in London, 3 in Manchester, 2 in Stoke-on-Trent, and 2 in Bradford.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had declined from 3599 to 3392 in the five

preceding weeks, had further decreased to 3307 on Saturday last; 340 new cases were admitted during the week, against 428, 351, and 401 in the three preceding weeks. These hospitals also contained on Saturday last 1267 cases of diphtheria, 309 of whooping-cough, 99 of measles, 77 of enteric fever, and 1 of small-pox. The 1350 deaths from all causes in London were 128 in excess of the number in the previous week, and corresponded to an annual death-rate of 15·6 per 1000. The deaths referred to diseases of the respiratory system, which had declined from 425 to 243 in the five preceding weeks, rose to 260 last week, but were 193 below the number registered in the corresponding week of last year.

Of the 5497 deaths from all causes in the 97 towns, 183 were attributed to different forms of violence, and 402 were the subject of coroners' inquests. The causes of 37, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 70 other smaller towns. Of the 37 uncertified causes of death, 7 were registered in Liverpool, 5 in Birmingham, 3 in St. Helens, and 2 each in Gloucester, Warrington, Blackpool, and Carlisle.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns, with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1137 births and 728 deaths were registered during the week ended Saturday, March 7th. The annual rate of mortality in these towns, which had been 16·9, 16·5, and 17·5 per 1000 in the three preceding weeks, declined to 16·6 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these Scotch towns averaged 18·6, or 1·9 per 1000 above the corresponding rate in the 97 large English towns. Among the several towns the death-rate last week ranged from 3·1 in Perth, 8·1 in Hamilton, and 10·9 in Coatbridge, to 19·9 in Clydebank, 22·0 in Ayr, and 24·9 in Aberdeen.

The 728 deaths from all causes were 42 fewer than the number in the previous week, and included 73 which were referred to the principal epidemic diseases, against numbers increasing from 68 to 98 in the four preceding weeks. Of these 73 deaths, 36 resulted from measles, 14 from infantile diarrhœal diseases, 10 from whooping-cough, 7 from scarlet fever, 5 from diphtheria, and 1 from small-pox, but not one from enteric fever. The mean annual death-rate from these diseases last week was equal to 1·6, against 1·2 per 1000 in the 97 large English towns. The deaths attributed to measles, which had steadily increased from 34 to 48 in the four preceding weeks, declined to 36 last week; of this number, 24 occurred in Glasgow, 5 in Edinburgh, and 2 in Ayr. The deaths of infants (under 2 years) referred to diarrhœa and enteritis, which had been 8, 16, and 13 in the three preceding weeks, were 14 last week, and included 6 in Aberdeen and 3 in Glasgow. The fatal cases of whooping-cough, which had been 4, 3, and 13 in the three preceding weeks, fell to 10 last week, of which 6 were recorded in Glasgow and 2 in Paisley. The deaths attributed to scarlet fever, which had been 7, 6, and 13 in the three preceding weeks, declined to 7 last week, and included 2 in Glasgow and 2 in Aberdeen. The deaths referred to diphtheria, which had been 12, 14, and 11 in the three preceding weeks, fell to 5 last week, 2 of which were registered in Edinburgh. The fatal case of small-pox was recorded in Aberdeen.

The deaths referred to diseases of the respiratory system, which had steadily declined from 230 to 116 in the seven preceding weeks, rose to 126 in the week under notice; 32 deaths were attributed to various forms of violence, against numbers declining from 36 to 15 in the five preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,205,280 persons at the middle of this year, 639 births and 444 deaths were registered during the week ended Saturday, March 7th. The annual rate of mortality in these towns, which had been 18·9, 19·1, and 20·8 per 1000 in the three preceding weeks, fell to 19·2 per 1000 in the week under notice. During the nine weeks of the current quarter the mean annual death-rate in these Irish towns averaged 21·6 per 1000; in the 97 large English towns the corresponding rate did not exceed 16·7, while in the 16 Scotch towns it was equal to 18·6 per 1000. The annual death-rate last week was equal to 20·9 in Dublin (against 15·6 in London and 16·0 in Glasgow), 18·3 in Belfast, 25·2 in Cork, 19·0 in Londonderry, 23·0 in Limerick, and 7·6 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 16·4 per 1000.

The 444 deaths from all causes were 36 fewer than the number in the previous week, and included 33 which were referred to the principal epidemic diseases, against 26 and 35 in the two preceding weeks. Of these 33 deaths, 12 resulted from infantile diarrhœal diseases, 9 from whooping-cough, 4 from measles, 3 from scarlet fever, 3 from diphtheria, and 2 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·4 per 1000; in the 97 large English towns the corresponding rate did not exceed 1·2, while in the 16 Scotch towns it reached 1·6 per 1000. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 8, 10, and 9 in the three preceding weeks, rose to 12 last week, and comprised 7 in Belfast and 5 in Dublin. The deaths referred to whooping-cough, which had been 9, 6, and 6 in the three preceding weeks, rose to 9 last week, of which 5 were recorded in Belfast, 3 in Dublin, and 1 in Tralee. The fatal cases of measles, which had been 5, 3, and 8 in the three preceding weeks, fell to 4 last week, which were all recorded in Dublin. The 3 deaths attributed to scarlet fever occurred in Belfast, and were 5 below the average in the earlier weeks of the quarter. The 3 deaths referred to diphtheria were equal to the average in the earlier weeks, and were recorded in Dublin, Belfast, and Sligo respectively. One fatal case of enteric fever was registered in Dublin and the other in Limerick. In addition to the above, a death from typhus occurred in Belfast.

The deaths referred to diseases of the respiratory system, which had been 99, 91, and 100 in the three preceding weeks, fell to 97 in the week under notice. Of the 444 deaths from all causes, 141, or 32 per cent., occurred in public institutions, and 6 resulted from different forms of violence. The causes of 16, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes of death did not exceed 0·7 per cent.

DONATIONS AND BEQUESTS.—By will the late Mr. G. C. Dobell, of Malpas, Cheshire, left £1250 to the Liverpool Royal Infirmary to endow a bed in that institution and £200 each to the David Lewis Northern Hospital, Liverpool, the Royal Southern Hospital, Liverpool, the Liverpool Stanley Hospital, and the Hospital for Women, Shaw-street, Liverpool.—Subject to certain bequests, the estate of the late Mr. David Anderson, of Handsworth, Staffordshire, of the value of nearly £15,000, will be divided equally between the Birmingham General Hospital, Birmingham General Dispensary, Birmingham Eye Hospital, Queen's Hospital, Birmingham, and the General Institution for the Blind, Edgbaston.—As the result of a compromise in a recent law suit in which a will was disputed it was decided to give £10,000 to a medical charity, the Jervis-street Hospital, Dublin, being the fortunate institution chosen.—Sir Frank Mappin has sent £1000 towards the Sheffield Radium Fund, which now amounts to over £4000.—Miss Burrell, of Botley, has given a donation of £1500 (additional to £5000 recently given) towards the reconstruction of the Hampshire County Hospital.

ROYAL EDINBURGH MEDICAL SOCIETY: ANNUAL DINNER.—This dinner was held in the society's hall under the chairmanship of Dr. W. A. Alexander, the senior President. Mr. Rutherford Morison, F.R.C.S., was the guest of the evening, and there was a large and representative company present. After the loyal and patriotic toasts had been honoured, the chairman proposed the health of Mr. Rutherford Morison. In response Mr. Morison gave some entertaining reminiscences of affairs in the Royal Infirmary during his early years in Edinburgh. He also gave some interesting impressions of Lister. If the vote of the students had been taken at that time as to who was the best surgeon in Edinburgh he was sure that Lister would have taken a back seat indeed. His colleagues had no hesitation in saying that they thought his theories, as they called them, all nonsense, and unworthy of consideration. Very few of the public knew anything about his work, and he was said to have had but few patients. A few at that early time saw that he had something to teach which could not be learnt elsewhere. He himself was a clerk to Lister for three months, and during that time the chief did not operate oftener than once a fortnight. His wards were full—40 to 50 beds—and they were filled with cases of accident, ulcer, tuberculosis, and the few cases which had been operated upon. He was very devoted to these tuberculosis cases, and would keep them in for months. Mr. Morison then reviewed some of the modern developments in surgical science.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of his late Majesty's Order in Council of August 11th, 1903, Surgeon Gerald Arthur Bradshaw has been allowed to withdraw from His Majesty's Naval Service with a gratuity.

The following appointments have been notified:—Deputy Surgeons-General: A. G. Wildey to the *Victory*, additional, for Haslar Hospital, and G. A. Dreaper to the *Vivid*, additional, for Plymouth Hospital. Fleet-Surgeons: W. Jackson to the *Venerable*; E. A. Penfold, P. H. Boyden, M. J. Smith, E. Arkwright, J. Shand (lent), and F. W. Parker (lent), all to the *President*, additional, for Senior Medical Officers' Course, at the Royal Naval Medical School, Greenwich; and E. H. Meaden to the *Impregnable*, temporary. Staff-Surgeon: H. W. B. Shewell to the *President*, additional, for Senior Medical Officers' Course at the Royal Naval Medical School, Greenwich. Surgeon I. S. Gabe to the *Devonshire*.

ARMY MEDICAL SERVICE.

Colonel William G. Macpherson, C.M.G., K.H.P., to be Deputy Director-General, and to be granted the temporary rank of Surgeon-General whilst so employed, vice Surgeon-General W. Babtie, V.C., C.M.G. (dated March 6th, 1914).

ROYAL ARMY MEDICAL CORPS.

Captain Francis M. M. Ommanney retires receiving a gratuity (dated March 11th, 1914).

Surgeon-General W. Babtie, V.C., C.B., C.M.G., has embarked for a tour of service in India.

Lieutenant-Colonel R. W. Wright has been selected for the higher rate of pay under Article 358 of the Royal Warrant of Pay and Promotion. Lieutenant-Colonel A. T. I. Lilly has been granted six months' general leave of absence in India. Lieutenant-Colonel C. W. H. Whitestone has arrived home for duty from India. Lieutenant-Colonel H. C. Thurston, C.M.G., has been transferred from medical charge of the Royal Military College at Sandhurst to the Aldershot Command. Lieutenant-Colonel B. J. Inniss has embarked for a tour of service in India. Lieutenant-Colonel T. B. Winter has been appointed to hold charge of the Military Hospital at Canterbury. Lieutenant-Colonel T. du B. Whaite has embarked for a tour of service with the Third (Lahore) Division of the Northern Army in India.

Major R. L. Popham has embarked for a tour of service in India. Major H. F. Shea has been selected for appointment as Specialist in Advanced Operative Surgery to the Third (Lahore) Division. Major J. S. Bostock has taken up duty at Aldershot. Major E. F. Q. L'Estrange has arrived home for duty from India. Major J. D. G. Macpherson has been appointed to the Northern Command. Major C. B. Martin has been appointed to hold medical charge of the Royal Military College at Sandhurst. Major F. S. Penny has arrived home from Hong-Kong for duty. Major F. E. Gunter has been appointed to the Southern Command. Major C. J. Holmes has been appointed to hold medical charge of the Depôt at Lancaster. Major R. McK. Skinner has embarked for a tour of service in India. Major A. D. Waring has been transferred from the Military Hospital at Hilsea to Gosport. Major J. H. Robinson has taken up duty at Peshawar. Major V. J. Crawford has arrived home for duty from the Military Hospital at Curepipe, Mauritius. Major B. F. Wingate has been appointed to the London District. Major E. E. Powell has been appointed to the Military Hospital at Ambala Cantonment. Major F. M. Mangin has been transferred to Poona Cantonment from the Military Hospital at Allahabad Cantonment. Major E. E. Parkes has embarked for a tour of service in India. Major N. H. Moss has been placed in charge of the Bacteriological Research Laboratory at headquarters, Fyzabad Cantonment. Major L. F. Smith has been transferred from the Military Hospital at Nowshera Cantonment to the Aden Brigade. Major S. A. Archer has arrived home for duty from India. Major M. MacG. Rattray has been transferred from the Military Hospital at Shorncliffe to Woolwich.

Captain T. C. C. Leslie has embarked for a tour of service in India. Captain T. W. Browne has been appointed to hold medical charge at Tipperary Military Barracks. Captain R. Storrs has been appointed to hold medical charge at Dorchester. Captain W. W. Browne has taken up duty at Ahmednagar Cantonment. Captain R. H. MacNichol has embarked for a tour of service at Malta. Captain J. J. O'Keefe has been appointed to the Military Hospital at Chatham. Captain R. Rutherford has arrived home from the Military Hospital at Singapore. Captain J. E. H. Gatt has been transferred from the Military Hospital at Cawnpore to Benares Cantonment. Captain A. H. Hayes has embarked for a tour of service in India. Captain G. W. G. Hughes has taken up duty at the Military Hospital, Plymouth. Captain T. S. Dudding has been appointed to the Bombay Brigade. Captain J. G. Carmichael has embarked for a tour of duty at Malta. Captain N. Low has joined the Colchester District. Captain M. Keane has embarked for a tour of service in India. Captain A. W. Byrne has been selected for appointment as Deputy Assistant Director of Medical Services (Sanitary Branch) to the Third Lahore Division. Captain E. D. Caddell has arrived home from Aden. Captain E. C. Stoney has been transferred from the Military Hospital at Shwebo to Bhamo. Captain P. C. Field has been transferred from the Military Hospital at Alexandria to Cairo. Captain A. N. R. McNeill has arrived home from Mauritius. Captain W. E. Marshall has been appointed to Cork District. Captain A. H. Douglass has embarked for a tour of duty in the Sierra Leone Protectorate. Captain W. H. O'Riordan has been transferred from the Military Hospital at Dehra Dun to Rawal Pindi Cantonment. Captain C. H. Denyer has been appointed for duty on board the transport from India s.s. *Plassy*.

Lieutenant E. C. Beddows has been transferred from Kildare and appointed to the Military Hospital at the Curragh Camp. The following Lieutenants have embarked for a tour of service in India: R. Davidson, R. K. Mallam, W. MacNaughtan, D. T. M. Large, M. Burnett, A. Hood, C. J. Blaikie, and J. R. M. Frobisher. Lieutenant R. C. Carlyle has been transferred from London to the Military Hospital at Caterham. Lieutenant G. F. Allison has been appointed to the Military Hospital at Strensall. Lieutenant W. L. Webster has embarked for Egypt. Lieutenant R. E. Porter has been transferred from Cork to Limerick. Lieutenant E. C. Lang has taken up duty at the Military Hospital, Curragh Camp. Lieutenant D. W. Bruce has been appointed to the Third (Lahore) Division of the Northern Army for a tour of duty. Lieutenant C. H. H. Harold has taken up duty at the Military Hospital, Ambala Cantonment, as Specialist in Dermatology and Venereal Diseases. Lieutenant E. G. S. Cane has been selected for appointment as Specialist in the Prevention of Disease in charge of the Bacteriological Research Laboratory at Colaba, Bombay.

INDIAN MEDICAL SERVICE.

Surgeon-General W. B. Bannerman, C.S.I., has rejoined at Madras.

Lieutenant-Colonel G. McI. Smith has been appointed Civil Surgeon at Ludhiana. Lieutenant-Colonel W. E. Jennings has been appointed Health Officer of the Port of Bombay. Lieutenant-Colonel B. J. Singh, Inspector-General of Civil Prisons, has been granted combined leave of absence for eight months. The services of Lieutenant-Colonel H. W. Pilgrim have been replaced at the disposal of the Commander-in-Chief in India. Lieutenant-Colonel A. W. Dawson has taken up duty at Roorkee.

The services of Major W. G. Richards have been placed temporarily at the disposal of the Government of Madras Presidency. Major J. W. Watson has taken up duty at Bhopal as Agency Surgeon. Major T. A. Granger has been selected for advancement to the rank of Lieutenant-Colonel. Major R. M. Carter has been selected by the Government of Bombay Presidency for employment in the Civil Medical Department. Major J. R. J. Tyrrell has been selected for appointment as Civil Surgeon to the Khyber District. The services of Major A. Gwyther have been placed temporarily at the disposal of the Director-General for special duty in connexion with an inquiry into leprosy. Major W. Glen Liston, C.I.E., has reverted to his substantive appointment as Director of the Bombay Bacteriological Laboratory. Major J. G. Swan has been selected for appointment as Civil Surgeon at Dalhousie.

Captain C. A. Gill on return to India has been appointed Chief Malaria Officer in the Punjab. The services of Captain E. B. Munro have been placed at the disposal of the Government of Bengal Presidency for employment in the Civil Medical Department. Captain L. Cook, officiating civil surgeon at Sambalpur, has been appointed to officiate as Civil Surgeon at Puri. Captain S. B. Mehta has arrived home on leave of absence from India. Captain C. H. Cross has been appointed Probationary Chemical Examiner to the Madras Government. Captain J. Smalley has been appointed Assistant to the Civil Surgeon at Poona, vice Captain A. F. Hamilton granted leave of absence. Captain F. O'D. Fawcett has taken over Medical Charge of the 1st Gurkha Rifles.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants to be Captains: Sarsfield J. A. H. Walshe (dated Feb. 15th, 1914), and Clarence E. Greeson (dated Feb. 18th, 1914).

Lieutenant John Fraser resigns his commission (dated March 7th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

3rd East Anglian Field Ambulance, Royal Army Medical Corps: Lieutenant Alexander Graham to be Captain (dated Jan. 7th, 1914).

3rd Home Counties Field Ambulance, Royal Army Medical Corps: Lieutenant James Barkley to be Captain (dated Feb. 3rd, 1914).

THE NAVAL MEDICAL SUPPLEMENTAL (COMPASSIONATE) FUND.

It is announced that application will be made in the present session of Parliament for an Act to make better provision with respect to the Naval Medical Supplemental (Compassionate) Fund which was founded in 1817 for the purpose of affording benefits to orphans of deceased members of the Naval Medical Supplemental Fund Society. It is proposed to appoint trustees comprising representatives of the Admiralty and the Naval Medical Society, to place the control of the Fund under the Royal Naval Medical Club and representatives of the Admiralty, and to authorise officers of the Naval Medical Service to make contributions to the fund. Under approved conditions provision will be made by the Act for widows and orphans of officers of the Naval Medical Service. Such an Act may, of course, amend or repeal the other Acts relating to the Naval Medical Supplemental Fund Society.

THE HEALTH OF THE GERMAN NAVY, 1910-11.

The fourth division of this report deals with the hygienic arrangements of the Imperial Navy and the improvements made during 1910-11. The lodging of the men in the new ships is reported to be spacious and quiet (noises are most unpopular and quiet running machines are specially sought). The men of the "von der Tann" have their mess places aft, roomy and well ventilated. Particular attention is given to prevent the sweating of bulkheads. Ventilation is chiefly mentioned as it relates to refrigeratcr rooms, and ozonising the air here for half an hour morning and evening completely removed the smell. The current required was less than needed for a 16 c.p. lamp. It was found that when a stream of air was pumped through a bunker the relative humidity indeed fell from 86·2 per cent. to 45 per cent., but the coal dust that was stirred up made the place more uncomfortable than the heat. A new pattern radiator is proposed, smoother, so that less dust will lodge, and there will be less overheating of dust, which is held to be the cause of the dryness of the throat noticed in heated apartments. The victualling scheme is elastic, and extra food is given to the men when necessary, just as extra coal to the engines. It is noted with surprise that fish was never issued officially abroad at meal times. Fruit was not allowed to be bought from bum-boats; only apples, pears, and bananas, fruits with skins, were got through the canteen, and these were dropped twice into boiling water for five seconds each time before issue. Water from the shore was almost invariably used for washing only. Wash-basins for the individual men are gradually being provided and in time every man will have his own basin. They are kept either in the man's own bag or in special bags handed out every morning, or in a special compartment in the mess locker. Much attention is given to facilitate washing and bathing, and douches like those in the French navy are being installed. Stokers' bath-rooms are put at the disposal of the seamen at suitable hours. In one ship where boils were frequent it was found good to disinfect all the washtubs, baths, and the drying-room as well. In some ships men were bound to have a tooth-glass of their own as well as, of course, a toothbrush. The consumption of beer is decreasing. Soda-water, &c., are made on board, and if such drink is given away gratis on great occasions the quantity of beer then drunk is probably reduced. Cold tea and coffee were on sale in hot countries. Leave was freely given, and the officers give lectures to the men concerning the port about to be visited, the things to be seen, and the diseases to be avoided. Then the officers take the men to see the things. It used to be said there was some competition amongst officers as to which of them would devise the most interesting expedition for the men. Lectures are given on cleanliness, alcohol, quackery, and health subjects—e.g., the avoidance of disease, especially venereal disease. A voluntary gymnastic hour of an afternoon for officers' servants and other "idlers" employed between decks was very popular. The dressing stations are divided into receiving-room and dressing-operation room; a rest space is provided near by for the wounded who have been treated. For emergency use lamps run off accumulators were being tested. Everyone in the ship is trained in first aid, in which they take the keenest interest. They learn to apply tourniquets, bandages, to carry the sick, and to restore the unconscious. The wounded are brought down by the guns' crews and ammunition party. The ambulance men are employed in the dressing stations. Each has had 14 days' nursing training in the sick bay, and they take the wounded into the operation-dressing room to the doctors, and remove them afterwards to the rest space, and they are skilled enough to look after the very severely wounded there. They are also taught to deal with fire smoke and gas difficulties.

MILITARY SURGEONS IN GERMANY: RECOGNITION OF THEIR POSITION AS OFFICERS.

A correspondent writes: "The jubilee year of the Berlin Society of Army Doctors has been marked in dramatic fashion by the German Emperor as supreme head of the Army. General von Falkenhayn, the Minister for War, attended the meeting and informed the assembled medical men that the Emperor by a stroke of the pen had put an end to the sharp distinction between army doctors of whatever rank and the youngest combatant officer who has received a commission. In the future detachments commanded by non-commissioned officers will salute army doctors in the same ceremonial fashion as combatant officers are now saluted, and doctors in charge of military hospitals will have disciplinary rights over the men under treatment. Nor is this all. On service they will wear the officer's scarf, and they are to be buried with military honours. This is little short of a revolution, for hitherto the 'health officers' have formed a distinct and subordinate class, however eminent might be the professional services rendered by them to the army of which they form so important a part. The delicate question of precedence, it is true, remains unsettled, but the recent Imperial rescript is a gratifying recognition of the medical profession in its relation to the army, even though it is long overdue. It is suggested, moreover, that the change may be the forerunner of other far-reaching reforms for the removal of racial prejudice."

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST (VICTORIA PARK HOSPITAL).—The annual court of governors of this institution was held on March 5th, Sir G. Wyatt Truscott, Bt., the treasurer, presiding. It was stated that public support had been received in a degree sufficient to sustain the hospital in full activity during 1913. With regard to the relation of the hospital to the proposed centralised control of measures for the treatment and prevention of tuberculosis, the committee will do all in their power to facilitate the association of the hospital with the general scheme under consideration, while retaining its special and voluntary characteristics. The changes which have already occurred have made it evident that the hospital can best fulfil its functions by an extension of the special departments. With this object the committee have in hand the erection of buildings for a department for special chest surgery and also for the most modern methods of dealing with diseases of the heart. Improved accommodation will also be provided for radiographic work. On the advice of King Edward's Hospital Fund the committee are greatly extending the balcony accommodation. These works, involving an expenditure of about £15,000, will very seriously tax the resources of the hospital.

LITERARY INTELLIGENCE.—Messrs. Butterworth and Co announce for early publication the revised and enlarged second edition of "Genito-urinary Diseases and Syphilis," by Edgar G. Ballenger, M.D., professor of genito-urinary diseases, Atlanta Medical College, assisted by Omar F. Elder, M.D., and J. Edgar Paullin, M.D.—The Oxford University Press announce "Plague and Pestilence in Literature and Art," by Dr. Raymond Crawfurd, illustrated by a series of 31 reproductions of plague-pictures, principally well-known paintings.—Messrs. Longmans and Co. will issue a series of monographs on Physiology, under the editorship of Professor E. H. Starling, F.R.S. The size of the volumes will vary from 100 to 300 pages. The following monographs are in preparation: "The Involuntary Nervous System," by Dr. W. H. Gaskell; "The Physiology of Reflex Action," by Professor C. S. Sherrington; "The Conduction of the Nervous Impulse," by Mr. Keith Lucas; "The Physiological Basis of the Action of Drugs," by Dr. H. H. Dale; "The Secretion of Urine," by Professor A. R. Cushny; "The Contraction of Voluntary Muscle," by Dr. W. M. Fletcher; "The Cerebral Mechanisms of Speech," by Dr. F. W. Mott; and "The Chemical Mechanisms of Integration in the Animal Body," by Professor E. H. Starling.

MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(Continued from p. 637.)

XXXIX.—OPPOSITION TO THE ACT IN LONDON; SOME OBSERVATIONS AT WANDSWORTH.

BY refusing to go on the panel many practitioners have found that their incomes were considerably reduced, and it would be easy to give the actual figures in respect to some cases that have come to my personal knowledge. But in other instances the refusal to join the panel has proved very advantageous. Thus even in such an industrial district as Bermondsey I came across the case of a practitioner who, by refusing to go on the panel, lost former club patients to the value of £80 a year, but his private practice increased to the value of £160 a year. Of course, this relative gain and loss is not an imposing one, but there is no general rule to determine these fluctuations; they depend on the district, the opportunity and the personality of the practitioner. In London a general practitioner who is not on the panel may do very well indeed, even in a poor and industrial district, if he is nearly alone. As matters now stand in many poor districts, one or two practitioners who have decided against the panel are doing well.

On the question of the degradation of medical practice under the National Insurance Act, the fear of which has dictated in the main the medical opposition, I have gathered much conflicting evidence, and this would be expected, for some of the practitioners on the panel are conspicuously doing their work better than others. While, on one side, it is maintained that the people, especially the poor people, never before enjoyed so much and such good medical treatment as they are now receiving, it is urged, on the other side, that even poor people will make great sacrifices so as to secure the exponent of "higher class practice." A practitioner who is a panel doctor and is doing contract work for the first time may treat insured persons much in the same way as if they were private patients—I know that this is being done by some men, just as I know that others take a different view of their duties; but no one can prove, though many assert, that the existing differences of professional standards between men on the panel will become less, and that the panel doctors will as a class sink to the level of badly managed and ill-paid contract work recalling the old club days.

Quite a different view is taken by the practitioners who are in favour of the panels; but for the moment I am recording the opinions of the opponents of the Act with whom I have been recently in communication. And it is undoubtedly a fact that they are not alone but are supported by no inconsiderable amount of their patients. I heard of one servant on low wages who consulted her medical man, an opponent of the Act, as to putting her name on the list of a panel practitioner. Having had an address given her she added that she might as well profit by the opportunity to ask for a bottle of tonic from her informant, who considered that his professional relations with her were closed. Of course, he told her to go to the practitioner whose address he had just given her, where she would get the tonic for nothing. Thereupon the servant girl was indignant. If she had proposed to put her name on a panel doctor's list it was to help a doctor (thus appears to have spoken this rather wonderful girl) and not to get medicine for nothing; nor did she intend leaving her usual medical adviser whom she desired to consult and pay as she had done before the Act. The spirit of independence is worth recording, but it is difficult to get over the fact that if she had got really ill or lost her employment she would have been unable to pay.

The practitioner in whose consulting-room this episode occurred told me that his private patients were not at all unanimous in the view which they, as members of the public, took upon the question of medical men going on the panels. One of them had remarked to him: "I am glad you are not on the panel, so you will have more time for attending to me." Others said: "Why do you not go on the panel? We could then send you our servants." But, in his opinion, to have a list of 50 or so servants would be a loss. He did not believe in doing panel work on a small scale. The disadvantages were as great whether the list was long or short, and it was not worth while embarking on panel work if the list of insured persons did not amount to from 1000 to 2000.

Many medical men have lost private patients, as was foreseen would be the case, whose incomes are just above the old club line, but the public has been on the whole slow to change medical advisers. The difficulty of filling up the panel doctors' lists is, among many other reasons, due to the fact that any number of the poorer paying patients have waited for a long time in the hope that the doctor they were in the habit of consulting would go on the panel. Some of them, but, of course, this is a minority, finding that their doctor will not go on the panel, prefer to lose the medical benefits to which they are entitled under the Act rather than change their medical adviser.

The Survival of the Medical Club.

In illustration of this tendency I came across a notable case at Wandsworth. So far back as 1881 some local practitioners established a club of their own and called it the Wandsworth Medical Aid Society. The membership was limited to those "who are unable to pay for medical advice in the usual manner." They therefore paid 1s. per quarter and not more than 4s. for a family, however large. The only other charge is 1*d*. for the card of membership and 1*d*. per quarter for management. Twenty-two practitioners are now attached to this organisation. The poor of Wandsworth for the modest charge of 1*d*. a week have free choice of any of these doctors, and this sort of provident society or club had done some good work for more than 30 years. Now, however, a great many of the subscribers have become insured persons, and it was natural to suppose that such an institution would only retain as members the dependents and others who for some reason were not insured.

The majority of the medical staff of the Wandsworth Medical Aid Society have gone on the panel, and with them it is easy to arrange matters. The subscribers to that society who are now insured persons simply put their names on their former club doctor's list, and only pay for the medical aid for their dependents. The same doctor continues attending the entire family as before. It is true that a delicate question might now arise. The doctors of the Wandsworth Medical Aid Society attended the

subscribers to this society for 4s. a year, and for this small sum provided all the necessary medicine. Now some of these subscribers have become insured persons for whom 8s. 6d. is paid for medical attendance and medicine. The community at large as represented by the State, the employer, and the employed have all three combined together to pay the same doctor to attend the same patient more than twice the amount given formerly. What difference is there in the results? Are the drugs and the attendance twice as good and elaborate as before? In the majority of cases I think not. But the various circumstances have to be well looked at. I would here recall the contention I often made when writing about the Battle of the Clubs. It was then shown that originally the giving of medical aid for a penny a week was considered as a semi-charity. The abuse of the club system arose from the attempt to run such institutions on a commercial basis. Then the pretension was made that the medical staff of the clubs were adequately paid. This naturally led the less scrupulous to give only the money's worth, and hence the degradation of the club doctor. Now, under the Act the former club doctor is getting something more like adequate payment and he must give adequate treatment. Those who did not consider their club practice as a commercial bargain, but inspired by the spirit of charity and the sense of the dignity of their profession gave all the attendance and medicine necessary, need not now alter their mode of treatment. They may simply be congratulated on receiving something more like a just return. But the others, and there are a good few of them among panel practitioners generally, who receiving only 4s. did not give themselves more than 4s. worth of trouble, what of them? They must improve their methods, although to do so will practically mean a confession that their former treatment was inadequate. Then, where habits have been long acquired they are not so easily and promptly altered. More than once it has been said that the best thing the Act has done is to sweep away the old clubs. But evidently the sweeping has not been as clean as desirable. There are club doctors who still treat their patients as "clubbers," and resent having to treat them as private patients. Of course, the better class of insured persons are rebelling against the idea of being considered and treated as "clubbers." The dissatisfaction against the panel doctors is thus well marked, at least in some districts where I have made inquiries.

But none of these people, any more than the officials under the Act or its Parliamentary spokesmen, ever remember that the doctor on the panel has often lost as well as gained. He has lost private patients and independence.

Insured Poor who Rebel against the Panel.

The most remarkable thing, however, is that this dissatisfaction is not limited to the better class of insured people. During the whole of one evening I sat in the surgery of a practitioner who is not on the panel, but whose services are much appreciated by former club patients. As I sat in his surgery I saw and questioned his patients as they came in one by one. This was all the easier as the weather was so bad that the attendance was smaller than usual, therefore more time could be spared for conversation not directly relating to the treatment. The first patient was a woman whose daughter, though insured, would not go to her panel doctor, but preferred paying so as to be treated by the doctor in whose surgery I was sitting. The father also came to consult him, yet being employed by some great public works he was entitled to the gratuitous services of a medical officer. Then there was another family. The father was insured and on the list of a panel doctor, but preferred to pay the doctor whom he knew. He not only paid for himself but for his son, a boy sick of phthisis, and for the other members of his family, so that the Insurance Act was of no use to him so far as the medical benefits are concerned. Now came a boy to fetch medicine for his father who is insured and 60 years old, yet he endeavours to pay a penny a week, he can ill afford, so as to get advice from a doctor whom he has known for 20 years, and he will not change because his medical adviser refuses to go on the panel.

There next came a woman who was not only insured but knew her panel doctor very well. He had come several times to a day nursery where she worked and she described him as a very nice man. But for all that she was not going to leave her own doctor, whom she had known for many years, because of some Act of Parliament which she did not understand "in the least little bit." Therefore she continued paying 1d. a week to her doctor's club as if no Insurance Act had come into existence. The patient that followed had recently removed from a neighbouring district, where her husband, who is insured, had a panel doctor, but through some irregularity he has not been able to transfer his name. Recently one of their children fell ill, and though they sent for a panel doctor they were not on his list and went to him as private patients. Nevertheless, they complained that they did not get proper attention, so that they determined to change and to be attended by a doctor who is not on the panel. This, among others, was pointed out to me as an instance showing that panel doctors were getting into bad habits and were not attending their private patients properly. But all such criticisms of panel doctors are largely answered by counter criticisms to the effect that they neglect their panel patients for their private patients; so that, to repeat what I have just said above, the various circumstances connected with panel practice have to be well looked at before any general deductions are drawn.

Now a very miserable-looking woman entered the surgery. Her husband was a bricklayer and insured, but for the moment he was on strike. Her daughter as well as herself were also insured, but none of them ever went to their panel doctor. On the present occasion, and in spite of great poverty due to the strike, she had scraped together a shilling to get advice from a non-panel doctor, and this was given to her, but the shilling was returned. One would have thought that, at least while the strike lasted, this bricklayer's family might have contented themselves with a panel doctor, and yet they preferred to pay so as to secure the services of an independent doctor. The next was an elderly lady whose son was afflicted with apparently temporary blindness. The mainstay of the family was the daughter, and she was insured. The family would not leave their family doctor, who had attended them for 20 years, and preferred to pay rather than go to a stranger, poor as they were. This old lady was followed by a young woman whose husband was insured, but his panel doctor lived

three miles away, so they came and paid fees as private patients. Finally, a woman came with her husband and showed a finger with a suppurating nail. According to the law her husband should have been insured; but "he was not going to be bothered, he meant to pay his way as he went along, and he had neither panel doctor nor insurance book."

All these cases came from the neighbourhood of Wimbledon and Wandsworth, and in these districts of the metropolis it will be seen, therefore, that there is resistance against the Act not merely on the part of medical practitioners, but also on the part of members of the general public, including even very poor people.

(To be continued.)

Home and Foreign Notes.

(FROM OUR OWN CORRESPONDENTS.)

LIVERPOOL.

Liverpool Workhouse.

THE Local Government Board has recently issued a memorandum dealing with the old vexed question of the use and condition of the pile of buildings on Brownlow Hill, comprising the main part of the workhouse and Poor-law infirmary of the select vestry. The memorandum states: "The workhouse and infirmary buildings at Brownlow Hill combine together to form a mixed workhouse of an obsolete type in which adequate classification is impossible, and of which the main imperfections may be summarised as arising out of (*a*) an insufficient site, (*b*) a congested and haphazard arrangement of buildings, (*c*) buildings themselves of an antiquated type, (*d*) lack of open ground, (*e*) danger of fire, and (*f*) defects of heating and drainage. We suggest that the number of persons accommodated in the workhouse site at present is much in excess of what is reasonable or hygienic. Thus the workhouse and infirmary is reported to have accommodation for 2511 inmates—viz., 1223 in the workhouse and 1288 in the infirmary. At the date of our visit, however, the total numbers did not exceed 1684." The document proceeds to deal in detail with the various departments. The buildings themselves, with few exceptions, are of an antiquated and unsuitable character. The inadequacy of the accommodation for the sick constitutes the gravest defect of the institution. In the case of the surgical wards for acute cases an improved standard has been attained, not far short of that attainable in modern infirmaries, a result partly due to the comparative newness of the structure and partly due to the greater elevation of the site, but otherwise it may be said without exaggeration that not a single ward comes up to the standard of modern Poor-law infirmary requirements. Many of the wards occupied by lunatics are virtually a series of cellars or basement rooms, which on one side are entirely below the level of the ground and difficult to ventilate properly. A further defect is the lack of adequate yard space outside the buildings. The memorandum continues: "It is only fair to the medical officers of the institution that we should comment on the patient and resourceful manner in which they have contended with the administrative and other difficulties arising out of the defects and shortcomings of the buildings. Owing to the structural character of the sleeping wards and the lack of day-room space it would not be proper to apply to this infirmary the standard of cubic space per bed (600 cubic feet) laid down by the Cubic Space Committee of 1867 for Poor-law infirmaries in the provinces. It is doubtful whether even the metropolitan standard of 1200 cubic feet would be sufficient in all cases." The officers who have made the report agree in thinking that the only true remedy for the conditions now existing is the reconstruction of the institution as an infirmary only, built on modern lines. Irrespective of the land now occupied by the old infirmary, there would be space for buildings at once with three double partitions, each containing about 200 beds, and a smaller partition containing from 50 to 100 beds, with an administration block of sufficient capacity for the whole infirmary when completed. This would give a total of about 1700 beds, in addition to some 150 beds remaining in the present surgical wards, and would leave the existing infirmary blocks for future reconstruction in sections. When ultimately the whole site had been developed as an infirmary the total accommodation would amount to something like 1200 beds. The Local Government Board report and the question of the remedy are to be discussed at a special meeting of the select vestry of the parish of Liverpool.

Death of Mr. Jerome E. O'Sullivan, L.R.C.P. & S. Edin.

Mr. Jerome Eugene O'Sullivan died on March 6th with distressing suddenness at his residence, 37, Shaw-street, Liverpool. He was a native of Cork and was educated at the Queen's College of that city, and afterwards at Edinburgh, where he qualified in 1879. He had been in general practice in Liverpool for over 20 years. In 1907 he was appointed a magistrate for the city. Mr. O'Sullivan was a great opponent of the National Insurance Act. He was president of the local branch of the Non-panel Union, and threw himself wholeheartedly into the fray against the Act, and many of his friends believe that his untimely demise is due in no small measure to the strenuous life he had been leading lately in the campaign against the Act. He was one of the most familiar figures in the profession, remarkable for his fine presence, courtly bearing, and kindly address.

Liverpool School of Tropical Medicine.

At a meeting of the committee of the school held on March 9th it was decided to appoint Dr. B. Blacklock to the directorship of the Runcorn Research Laboratory. This laboratory was established in 1905 for the purpose of working up the material brought back by the various scientific expeditions which have been dispatched by the school from time to time to the tropics. The rapid accumulation of material and the scientific papers published by workers in the laboratory have made it an important centre for research in tropical medicine, while the collection of living trypanosomes and other parasites causing fatal disease in man and domestic stock in the tropics, maintained at Runcorn for teaching and research purposes, is one of the largest in the world. Dr. Blacklock has had great experience of tropical diseases both in Africa, where he has spent three years, and in this country.

March 10th.

WALES AND WESTERN COUNTIES.

Housing in Newport.

THE population of Newport, Mon., is now approaching 100,000, and has increased during the ten years ending 1911 by nearly 25 per cent. The proximity to the seaboard on the one hand and to the coalfields on the other is attracting many new industries to the town; one large undertaking about to be established will employ some 3000 men, and other smaller enterprises are being organised. Already 3500 houses in the town are occupied by more than one family, and of the 15,000 houses in the borough only 133 were unoccupied at the end of 1913. In these circumstances the corporation has decided to erect 100 dwellings under the provisions of Part III. of the Housing of the Working Classes Act, 1890, and the medical officer of health, Dr. J. Howard-Jones, is urging the preparation of a town planning scheme which would have to be on a site or sites beyond the boundaries of the borough. At a housing conference of delegates from local authorities in South Wales, Monmouthshire, and Herefordshire, held at Newport on Feb. 26th, the Mayor of Newport suggested that the funds of the Miners' Federation and of the railway workers' organisations might with advantage be used in the promotion of housing schemes. Mr. H. R. Aldridge, secretary of the National Housing and Town Planning Council, urged that the funds of the Post Office Savings Bank might be used for housing purposes, in which case a lower rate of interest would be paid by local authorities who erected houses.

Conditions affecting a High Birth-rate.

At the last meeting of the West of England and South Wales Branch of the Society of Medical Officers of Health held at Swansea, there was a discussion upon the influence of housing conditions and of the ingestion of lead on the limitation of families. Dr. T. E. Francis, medical officer of health of Llanelly, pointed out that where good sanitary conditions prevailed families were small, and he quoted in support of this contention the fact that the birth-rate was much higher in rural than in urban districts. He had found that in Llanelly the ward with the lowest birth-rate had the smallest proportion of tenements rated under £10 per annum, and that in the ward with the largest proportion, 78 per cent., of small tenements the birth-rate was the highest. Dr. J. D. Jenkins, medical officer of health of the Rhondda urban district, considered that overcrowding of houses influenced the birth-rate not in the direction of the limitation of families, but rather in the direction of the increase in the birth-rate by promoting early marriages and by tending to increase the number of illegitimate births. He also agreed that there was some justification for attributing the diminished and diminishing birth-rate in the Rhondda valleys to improved and better housing conditions. On the question as to whether lead poisoning affected the birth-rate, he compared two districts in the Rhondda valleys, one of which is supplied with water having plumbo-solvent qualities and the other devoid of such qualities. In the former area there have been many pronounced cases of lead poisoning, and in the ten years 1903–12 the birth-rate was 37 per 1000, compared with 39·4 per 1000 in the other area. During the first half of the decennium the difference in the two areas was 3·2 per 1000, and in the second half only 1·3 per 1000, and it was during the second half that special measures were taken to remove the plumbo-solvency of the water. Dr. Thomas Evans, medical officer of health of Swansea, was of opinion that the birth-rate was kept up by overcrowding. He considered that when the family of a working man increased and he had to move to a larger house his rental should not be raised.

The "Mortuary" at Princetown.

At an inquest recently held at Princetown (Devon) the medical man who performed the necropsy complained of the "mortuary," which, he said, was an absolute disgrace, being only a little tin-covered building with no window, no place to hang a coat or to wash the hands, with the door wide open to the public thoroughfare. People looked in out of morbid curiosity. The coroner remarked that it was a scandal and said he would communicate with the parish council.

Shortage of Midwives in Devon.

At the meeting of the Devonshire Nursing Association held on Feb. 27th the county medical officer of health, Mr. G. Adkins, drew attention to the shortage of trained midwives in Devonshire. Mr. Adkins stated that there were 200 untrained midwives in the county and only about six of these carried out the rules of the Central Midwives Board. The condition was really appalling, but the Public Health Committee had sent the names of many of these women to the Central Midwives Board, and they had all been removed from the roll, and a like course would be followed in the case of others.

Bristol Medical Dramatic Club.

The Bristol Medical Dramatic Club recently gave their thirty-sixth annual performance, when *The Upper Crust* was played on five occasions at All Saints Hall, Clifton, the performances being given in aid of the Bristol Eye Hospital. The comedy was ably rendered to a large and appreciative audience.

The late Dr. John Ernest Paul.

The funeral of the late Dr. J. E. Paul took place at Torquay on Feb. 17th, and was largely attended by the local members of the medical profession. Dr. Paul, who received his medical education at University College Hospital, London, qualified L.R.C.P. Lond. and M.R.C.S. Eng. in 1890, and graduated M.D. Lond. in 1892. After holding resident appointments at University College Hospital Dr. Paul settled in Torquay, where he became honorary physician to the Western Hospital for Consumption, Erith House, Rosehill Children's Hospital, &c. Dr. Paul was highly respected, and he will be much missed in Torquay.

March 10th.

IRELAND.

The Royal Colleges and the Working of the National Insurance Act.

LAST autumn complaints were made to the two Royal Colleges of Ireland as to alleged unprofessional conduct of certain Licentiates of the Colleges in the carrying out of the duties of the offices which they had accepted under the National Insurance Act. It was alleged that in the course of examining members of Approved Societies who were claiming sickness benefit some medical advisers or referees had not only visited patients under the care of other practitioners without the knowledge of the latter, but had commented adversely on the treatment given. The Colleges have so far postponed investigations of specific complaints, but have thought it wise to suggest rules of conduct by following which friction

might be avoided. A joint committee of the Colleges was appointed, which after long deliberation made certain recommendations. The Colleges have now expressed their views in the following unanimous resolutions, which have been promulgated to the several Fellows, Members, and Licentiates.

Resolved—

That in the opinion of the Royal Colleges of Physicians and Surgeons, Ireland, the existing arrangements for obtaining evidence of incapacity, entitling to benefit under the National Insurance (1911) Act, have given rise to serious abuses.

In forming a judgment as to whether a person is "incapable of work" it is essential, alike in the interests of the public and of the claimant, that the fullest possible information as to the medical condition of the claimant should be before the person whose duty it is to adjudicate on the claim. This information is, as a rule, in the possession only of the claimant's medical attendant.

The Colleges are of opinion that medical certificates under the Insurance Act should be accepted only if given by the claimant's medical attendant, if any, unless such medical attendant refuses to certify.

If the Body claimed against desires to review a certificate, the Colleges are of opinion that the medical referee should have before him the certificate originally given by the claimant's medical attendant, and should give such medical attendant sufficient notice of the time and place of examination, and an opportunity of stating the grounds on which he arrived at the opinion expressed in his certificate.

Resolved—

That the manner in which the duties of the office of "medical adviser," either to the Insurance Commissioners or Approved Societies, are being discharged at present in many parts of Ireland is contrary to medical ethics, and deserving of punishment by the Colleges.

In thus warning their Licentiates of the danger they may run the Colleges have rightly interpreted their function of preserving the interests of the public and safeguarding the honour of the profession. They have shown, too, that they are more anxious to guide medical men in the right way than to punish those who, perhaps from lack of forethought, have erred. This expression of opinion by the two Colleges must have weight with the authorities in considering the future working of the Act.

A Radium Institute for Dublin.

The Royal Dublin Society is taking steps to establish a radium institute in Dublin, Lord Iveagh having contributed £1000 towards the cost of the purchase of additional radium. It is hoped that radium treatment may be made available both for hospital and private patients under convenient conditions.

Health of Belfast.

At a meeting of the city council of Belfast held on March 2nd the report submitted as to the health of Belfast between Jan. 18th and Feb. 14th showed that 262 cases of infectious disease had been notified, including 192 of scarlet fever, as compared with 288 in the previous four weeks, and only 150 in the corresponding period of 1913. The total death-rate from all causes was very high—22·4 per 1000, as well as that from chest affections—9·0 per 1000, while the death-rate from zymotic diseases was 1·5.—A delay has arisen in entering upon the practical work of the tuberculosis scheme of the corporation owing to some hitch in regard to the transference by the board of guardians of the Abbey Sanatorium to the Belfast city council. The corporation blames the board of guardians while the latter in reply say they are not in any way responsible for the delay that has taken place, which "had been occasioned entirely by the corporation and its officials." The Local Government Board will have to settle the matter.

Dispensary Doctors' Salaries.

The finance committee of the Belfast board of guardians has agreed to recommend that the salaries of the dispensary doctors in the Belfast union, as well as all the visiting medical officers of the workhouse, shall be increased. The report is to be considered at a further meeting of the board of guardians.

Ulster Medical Society.

On the evening of March 5th the President of the Ulster Medical Society (Mr. A. B. Mitchell) and Mrs. Mitchell gave a most enjoyable "At Home" in the Medical Institute, Belfast, to the Fellows and members of the Ulster Medical Society and their wives. The lecture-room of the institute was furnished as a drawing-room, and here Mr. and Mrs. Mitchell received their guests. An admirable programme of vocal and instrumental music by the "Beethoven House Orchestra" was provided during the evening, while Mr. M. Davies also gave some selections, which were much appreciated. Refreshments were provided in the library and there were card tables in the billiard room. The evening passed off most successfully and was greatly enjoyed by the very large company who were present.

March 10th.

BUDAPEST.

Trials of Friedmann's Anti-tuberculous Treatment in the Budapest Clinics.

INDUCED by the favourable results which were reported last October in Germany by Dr. Schleich, Dr. Müller, Dr. Thalheim, Dr. Immelmann, and Dr. Kraus, after they had given a fair trial to Dr. Friedmann's treatment, the medical staff of some Budapest hospitals resolved to employ it in their wards. On Dec. 2nd and 3rd Dr. Friedmann himself performed inoculations in the St. Stephen and the St. Rochus Hospitals, both of which supply clinical material for the purpose of medical education. The President of the Interhospital Medical Society has invited Dr. Havas, professor of dermatology, to exhibit 14 cases of tuberculous disease of the skin which are under his care, and have been treated by Friedmann's remedy. The inoculations were made early in February of this year; the cases were shown in the untreated state, and they will be shown again in from eight to ten weeks, when their treatment will be finished.

A New Method of Treating Warts.

Dr. Felix Szontagh, of Budapest, recommends a new and simple method of treating warts. It consists in covering the wart and the surrounding skin, to the width of 1 centimetre, with ordinary caoutchouc plaster, and leaving it so covered for weeks—even, if necessary, for two or three months. Whenever the plaster becomes loose it must be removed and replaced by a new piece. As a rule the plaster is to be changed once in three or four days. Any adherent residue of the caoutchouc is to be removed with ether or petrol, care being taken that the wart or the surrounding skin shall not be rubbed energetically, because irritation of the skin is not conducive to the disappearing of the wart. Dr. Szontagh says that he cannot explain the action of this simple method and how it

produces such excellent results from the cosmetic point of view, but it is certainly efficient. Perhaps the caoutchouc contains some substance which softens the wart and causes atrophy.

Proposed Neutrality of Balneary Centres and Health Resorts in Case of War.

The *Magyar Balneologiai Értesitö* (*Hungarian Balneological Journal*) publishes an article by Professor Kisch, one of the greatest balneological experts in Austria. I see that your Berlin correspondent has briefly alluded to the communication. It was originally sent to Professor Arpád Bokay, president of the Hungarian Balneological Society, with the request that if Dr. Bokay approved of the proposal he would approach the Ministry of Foreign Affairs in support of it. Professor Kisch had already written on the subject in 1866, when military operations were taking place in the immediate vicinity of the world-renowned Bohemian balneary towns, Carlsbad, Marienbad, and Franzensbad. One year later the question was brought before the Bohemian legislature in the form of an interpellation, and then the Governor asserted that he sympathised with the idea, but that the question could only be settled by joint international action. In 1896, at the International Congress of Associations for the Nursing of the Wounded, Professor Langenbeck, the head of the medical department of the Prussian army, proposed that the Congress should communicate to the governments of the different countries its opinion that in case of war all health resorts should be declared neutral, and should be utilised for the accommodation of sick and wounded soldiers. During the long peace which followed the Congress the matter was in abeyance, but now, when rumours that peace is likely to be broken are frequent, the question has been revived, and Professor Kisch thinks that it would be worth while to consider the matter again. Of course, an extension of the Geneva Convention would be absolutely necessary. If this could be done it would be a great advantage to sick and wounded soldiers, because in the Austrian balneary towns alone there are about 100,000 beds, at least the half of which could be occupied by soldiers. The health resorts would not lose by this arrangement, because the cost of the soldiers' food and housing would be repaid by the State, and thus a good part of the loss suffered by the proprietors on account of the war would be compensated. Dr. Kisch says that all unions and societies formed for the purpose of nursing sick and wounded soldiers ought to unite with the Hungarian and Austrian balneological societies, and make combined representations to each European Government pointing out the necessity of international action being taken without delay.

March 2nd.

BERLIN.

Decrease of the Birth-rate.

THE constant decrease in the birth-rate in Germany has for some years past created considerable uneasiness in both political and medical circles. The causes of this are not yet very clearly ascertained, and a variety of opinions have been expressed regarding it. Some authorities consider that the birth-rate depends only on economical reasons; it is alleged that the protective tariff, which has increased household and personal expenditure in this country, has induced the working-class population to limit the number of their children because they are unable to bring up large families. Others say that the decrease in the number of children is a sign of culture; in nations of a high cultural standard—as, for instance, in France—the average number of children is small, whilst in nations of a lower standard, such as Russia, there is no intentional limitation of the number of children in a family. Moralists complain that the increase of luxury, especially among the upper classes, has the effect of inducing women to abstain from having children, who are regarded as a burden. It is moreover stated that of late years the sale of anticonceptional appliances in Germany has become an actual scandal. These things were formerly almost unknown among the peasantry and the working population, and were used only by the well-to-do classes. Nowadays agents sent by the manufacturers of these articles visit the homes of the working classes both in town and country and induce them to buy these appliances at extremely high prices. At the entrance gates of factories, collieries, and mines persons are employed to distribute pamphlets containing warnings against producing too many children owing to the expenses connected with them. Legislative measures are therefore believed to be necessary for the repression of those evils, and the Roman Catholic party in Parliament has now brought forward a Bill for that purpose. According to the terms of the Bill the Federal Council is to be empowered to limit or prohibit altogether the sale of anticonceptional drugs and appliances, as far as they are not at the same time useful to prevent venereal infection. The importation of these drugs or instruments from abroad is also to be prohibited, and when they have been imported the Federal Council shall have the right to seize them even if the importer is not under German jurisdiction. The advertisement of such drugs and instruments is to be made a criminal offence, punishable by a fine not exceeding 1500 marks, or by imprisonment for six months. Exception is made in the case of medical and pharmaceutical journals. The Bill is at present under discussion in a committee of the Reichstag. The majority of the press is opposed to it, and a number of Professors of the University of Berlin have been asked their opinion by a leading newspaper of that city. Nearly all of them have declared that the proposal is open to the objection that a considerable number of instruments and pharmaceutical preparations used for the prevention of conception are also used as safeguards against venereal infection, and to prohibit the sale of them would result in an increase of venereal diseases. Gonorrhœa being a well-known cause of sterility, any increase of that disease would tend to depress the birth-rate, so that an effect contrary to that desired by the promoters of the Bill would eventually be produced. The anticonceptional preparations and appliances would continue to be sold at an advance over the present prices owing to the sellers being liable to punishment. It is certainly true that so complicated a question as the decrease of the birth-rate cannot be solved by police measures, and the Bill, which will inevitably interfere with the personal rights of individuals, may be dropped.

Health of the French and German Armies.

According to the French newspapers the health of the French army, especially in the garrisons near the eastern frontier, is by no means good owing to the existing barrack accommodation being unable to meet the extra demands made on it in

connexion with the recent sudden increase of the army. These newspapers, moreover, assert that measles, scarlet fever, influenza, and cerebro-spinal meningitis are prevalent in those garrisons. In January, when the number of the French army was 717,415 men, 44,192 had been treated in the sick rooms of barracks and 21,570 in the military hospitals, of whom 280 died. As some French journals have published statements to the effect that a similar unsatisfactory state of affairs existed in the German army, the Minister of War was asked in Parliament whether the reports were true or not. He answered that in January, when the number of the German army was 771,100, there were 20,044 men who had been treated in the sick-rooms of barracks and 18,610 in hospitals, the number of deaths having been 113, including accidents and suicide. This is all the more satisfactory as the recruits numbered 60,000 more than in former years, and it is remarkable that of the recruits who came to the army last autumn only 4 per cent. had up to Feb. 1st been discharged on account of illness.

Death of Professor Joachimsthal.

The early death of Dr. Joachimsthal, professor of orthopædic surgery and director of the orthopædic clinic in the University of Berlin, is much regretted. He was born at Stargard in Pomerania in 1863, and studied medicine at the University of Berlin. Having passed the State examination he became an assistant in the orthopædic clinic under Professor Julius Wolff, who was well known by his important researches on the structure of bone. In 1898 Dr. Joachimsthal was recognised as *privat-docent*, and in 1902 he was appointed professor. In 1908 he became the successor of Professor Hoffa as director of the orthopædic clinic, and held this appointment until his death, which was due to an apoplectic seizure. His work was concerned almost exclusively with orthopædic subjects, and his essay on functional alterations in the form of the muscles was "crowned" by the Academy of Sciences in Paris. His great treatise on orthopædic surgery has become a standard work in Germany. With the late Professor Hoffa he was the co-editor of the *Zeitschrift für Orthopädische Chirurgie*, and after the death of Professor Hoffa he was the only editor of that journal, for which he wrote numerous articles on different subjects. He was the permanent secretary at, and several times the president of, the Congress of Orthopædic Surgery. His amiable and unassuming disposition endeared him to his professional brethren, so that his death is universally mourned.

March 9th.

ROYAL WEST OF ENGLAND SANATORIUM, WESTON-SUPER-MARE.—The annual meeting of the subscribers of the Royal West of England Sanatorium was held on Feb. 21st. The medical report showed that during 1913 1472 male and 1133 female patients were admitted; of this number 952 had been cured, 905 much improved, and 537 improved. 9000 warm sea-baths had been given during the year under trained supervision and had been much appreciated. The financial statement showed that the income amounted to £4897, and had the claim for refundment of income-tax, about £40, been met before the closing of the accounts, there would have been a small favourable balance in hand. During the past year the electric light has been installed in the sanatorium, at an expenditure of over £1000. The whole of this sum has been raised by the efforts of the lady superintendent, Miss Mawe.

Obituary.

ROSWELL PARK, M.D., LL.D.,

PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

THE distinguished American surgeon, Dr. Roswell Park, died at Buffalo on Feb. 15th at the comparatively early age of 62.

Roswell Park was born in Pomfret, Connecticut, in 1852. His father was a clergyman. Both his father and mother were descended from distinguished American families. An ancestor, Colonel James Baldwin, was a member of the staff of General Washington, and was present in that capacity at the crossing of the Delaware. Dr. Park was educated at Racine College, Wisconsin, which was founded by his father, where he graduated in arts in 1872. He studied medicine in the North-western University, Chicago, and after graduating spent two and a half years as an interne in two of the largest hospitals in Chicago. When only 25 years of age Dr. Park began his career as a teacher. At first he was demonstrator in anatomy in the Woman's Medical College of Chicago. He was next made assistant professor of anatomy in the Chicago Medical College. After studying in Europe, chiefly in Vienna, for a year, he was appointed lecturer on surgery in Rush Medical College, Chicago. In 1883 he was appointed professor of surgery at the University of Buffalo, New York, which he held up to the time of his death.

Dr. Park was a many-sided man. He was cultured, musical, and one of the best writers of English among the medical men of the United States. He wrote the Mather Lectures on Surgery, an Epitome of the History of Medicine, a "Practice of Surgery," and edited the serial work, "Surgery by American Authors." He was the author also of several essays. Dr. Park received the honorary degrees of LL.D. from Yale University, of M.A. from Harvard University, and of M.D. from Lake Forest University. He had been President both of the American Surgical Association and of the Medical Society of the State of New York. He held a non-resident professorship in the Army Medical School, Washington, and was a visitor to the West Point Military Academy.

When President William McKinley was shot at the Pan-American Exposition in Buffalo in 1901 Dr. Park was with the wounded President to the end, but he was best known for his researches on cancer, and it was wholly by his instrumentality that the New York State Cancer Laboratory, known as the Gratwick Laboratory, of which he was the Director, was established in Buffalo. Dr. Park was a popular man, of a gentle, tender, and generous nature. He numbered his friends by hundreds throughout the English-speaking world.

FRANCIS VACHER, F.R.C.S. EDIN., M.R.C.P. EDIN., J.P.,

CONSULTING SURGEON TO THE WIRRAL HOSPITAL FOR CHILDREN.

WE regret to announce the death of Mr. Francis Vacher, which took place at Port Said on Feb. 25th.

Mr. Vacher, who was the son of Mr. Thomas Brittain Vacher, was born at Brompton, London, on Feb. 13th, 1843, and therefore had just entered his 72nd year when he died. He was educated privately, and having a penchant for art, studied along lines which his bias suggested at Kensington and in Germany. Later, however, he turned his attention to medicine, and at the age of 21 went

to Edinburgh and took the double qualification of the Royal Colleges. He was a student at the university, but did not graduate in medicine. In 1866 he was appointed house surgeon at the Royal Maternity Hospital, Edinburgh, and a year after he took a similar post at the borough hospital in Birkenhead.

In 1873 he was appointed medical officer of health and public analyst to Birkenhead, and it was in this year that his early midwifery experience led him to invent a pair of forceps which he described in the Liverpool and Manchester Medical and Surgical Reports. He took the F.R.C.S. of Edinburgh in 1878 and the M.R.C.P. in 1882. In 1893 he was appointed medical officer of health and later medical inspector of school children for Cheshire, which post he resigned four years ago. Mr. Vacher made many contributions to medical literature, including a paper on the use of "Blood Serum as a Therapeutic" in 1876; "Notes on the Epidemic of Small-pox at Birkenhead in 1877"; and a paper on Exanthemata and some Allied Diseases, in which he dealt with the duration of the latent period. His contributions on public health included "The Food Inspector's Handbook" (1892), "A Healthy Home" (1894), and many others, among them being "Public Baths," "Defects in Plumbing and Drainage Work," and "The Dead Body as a Source of Infection." He was also the author of "Seduction in Edinburgh." Mr. Vacher was a Freeman of the City of London, a Past Master of the Tallow Chandlers' Company, and a member of the Court of Assistants. It is interesting to note that this old city company, whose foundation dates back to the early part of the fifteenth century, had powers to search for and destroy all bad and adulterated oils, and no member of the company was allowed to mix "deceitful" tallow with the best tallow.

Mr. Vacher was one of the founders of the Birkenhead Medical Society and had been President. He had also been President of the Incorporated Society of Medical Officers of Health. He was made a justice of the peace for the Wirral Division in 1910. He was a Fellow of the Royal Sanitary Institute, a Fellow of the Chemical Society, and a member of the Société Française d'Hygiène.

Mr. Vacher, who had recently been in indifferent health, decided to take a voyage to the Holy Land with his wife, a daughter of the Rev. John Mollan Bleckley, whom he married in 1899, and his two daughters. He left England on Feb. 13th, by a coincidence his birthday, but caught a chill during the voyage, and, as already stated, died at Port Said, where he was buried.

EDWARD DORSET FARMAR BRINGHURST, F.R.C.S. EDIN., F.R.G.S.,

MAJOR A.M.S (RETIRED).

By the death of Major Farmar Bringhurst, which took place on Jan. 30th at St. George's Hospital, after an operation, an interesting and varied career was brought to a close. Born in 1854, Major Bringhurst was the eldest son of the late Lieutenant-Colonel W. M. Farmar, of Bournemouth. He received his medical education at St. George's Hospital, at the University of Edinburgh, and at Paris. He qualified by becoming L.R.C.P. Edin., L.R.C.S. Edin., and L.M., in 1877, proceeding to the F.R.C.S. Edin. in 1880. In the year in which he qualified he was appointed medical officer to a party of seven persons who visited Australia on behalf of the Government of Victoria to report as to the possibility of building a canal from Melbourne to Hobson's Bay, and after visiting the Gold Diggings, Tasmania, and New Zealand, he returned to England. Later he went to India, and subsequently in 1881 joined the Army Medical Service as a surgeon.

In 1882 he volunteered for active service in Egypt, in the Arabi rebellion, and after the bombardment of Alexandria was attached to the cavalry brigade at Ismailia under Lord Wolseley and H.R.H. the Duke of Connaught. For his services he received the Egyptian medal and the Khedive's Star. In 1883 he went to South Africa for five years, serving in Capetown, Natal, and Zululand. In 1888 he was appointed to the charge of a field hospital in Zululand, was present at the operations against Dinizulu, and saw the last shot fired in connexion with the closing scene of the Zulu rebellion. In 1889 he went to India, where he served for several years. In 1891 he was appointed to the medical charge of Bhamo, on the Chinese frontier. Later he was placed in charge of Shwebo, and received the thanks of Brigadier-General G. B. Wolseley, C.B., for his care of the sick and wounded from the Wuntho column, after the operations against the Swabwa of Wuntho. In 1895 he served on the Malabar coast of India, and organised the medical arrangements for British troops sent from Wellington to the Nilgiris, against the Moplahs in the Malapuram district. He returned to England in 1896, and was stationed at York headquarters as company officer, retiring from the army in 1898. He was elected a Fellow of the Royal Geographical Society in 1899, having, in the previous 20 years, travelled more than 200,000 miles over ocean and land—roughly about eight times the distance round the world.

ROYAL DEVON AND EXETER HOSPITAL.—The annual meeting of the governors of the Royal Devon and Exeter Hospital was held on Feb. 26th. The medical report stated that during 1913 the in-patients admitted were 1680, and 3957 out-patients were treated, as compared with 1754 in-patients and 5033 out-patients in 1912. The daily average number of occupied beds was 152, the average stay 33 days, and the cost per occupied bed £65 13*s.* 5*d.* The financial statement showed that the ordinary receipts amounted to £10,687, and the excess of ordinary expenditure over ordinary income amounted to £1654. It was decided to initiate a throat, nose, and ear department, and the necessary rooms will be fitted up in the out-patient department.

EDGAR ALLEN INSTITUTE.—Reference has been made in recent years in these columns to the Edgar Allen Institute for Medico-mechanical Treatment, 77, Gell-street, Glossop-road, Sheffield. The committee now announce that unless they are able to obtain sufficient promises of financial assistance to render the institute self-supporting it will be compelled to close its doors on June 30th next. The institute was founded chiefly for the benefit of the wage-earning classes, and with the view also of introducing into this country the Zander method of treatment, which has been successfully practised on the Continent for many years. The building and the equipment were the gift of Mr. W. Edgar Allen to the city, and he also held himself responsible for the cost of upkeep during the first three years of its existence. Up to Dec. 30th last 1388 patients, chiefly from the working classes, were admitted. The expenditure is about £1600 per annum, towards which certain fees, amounting to about £700, are received. The institute is under the immediate care of a medical director, Dr. R. G. Abercrombie, with a trained Swedish staff, and patients are received for treatment only upon the introduction of a medical man.

Correspondence.

"Audi alteram partem."

SYPHILIS AND "MENTAL DEFICIENCY."

To the Editor of THE LANCET.

SIR,—The recent appointment of the Royal Commission on Venereal Diseases and the passing of the Mental Deficiency Act have stirred up public interest in these subjects, and it is no matter for surprise that any evidence tendered regarding a causal connexion between syphilis and mental defect should attract popular notice. Many persons interested in these matters are likely to accept inferences drawn from imperfect and unchecked observations as scientifically established conclusions. I have lately heard more than one person of prominent position make the assumption that mental deficiency has been proved to be chiefly caused by syphilis, either congenital or acquired; and that the problem of the etiology of mental defect had thus been approximately, if not wholly, solved! It is not my purpose to discuss the question of the rôle of syphilis in causing certain cases of mental defect, or of the Wassermann process being a scientifically established test for the presence or absence of the syphilitic virus. I desire rather to call attention to the necessity for exercising the greatest caution both in the observation of facts and in the method of interpreting them before making public any doctrine or implication that syphilis is a predominant cause of mental defect generally.

It is now widely known beyond medical circles that the Wassermann test has led to the discovery of the probable existence of the syphilitic virus in many cases which show no clinical signs of syphilis, the *disease;* and that, as a consequence, the pathogenic field of syphilis tends to become rapidly enlarged. In fact, at the present moment, the etiological question of the relation of syphilis to mental deficiency generally seems to turn almost wholly on the proper use and valuation of the Wassermann test, and on the proper use of the scientific method in endeavouring to ascertain how far syphilis may rightly be regarded as a causative factor in the production of mental defect in cases thus tested which show a positive reaction. For it must be remembered that, apart from this test, which is believed frequently to reveal unsuspected syphilis, and apart from its promiscuous application at the present time to large numbers of mentally defective cases, many of which are admitted to be of very slight degree, the actually wide question now under consideration would not have arisen.

More or less recently published records of cases where the Wassermann test has been applied to idiotic, imbecile, and many other "mentally defective" children show highly varying results as to the frequency of a positive reaction, this variety being probably due to dissimilarities between cases examined, methods used, and persons observing, as well as to other conditions. A record of two groups of mentally defective children thus examined by Dr. K. Fraser and Dr. H. F. Watson was published in the *Journal of Mental Science* for October, 1913, showing that a little over 46 per cent. of all these cases gave a positive reaction. One group of cases, numbering 89, consisted mainly of "defective" children attending "special schools"; the other, numbering 105, of out-patients at the Royal Hospital for Sick Children, both in Glasgow. Only slightly over 16 per cent. of these cases showed *clinical* signs, or "stigmata," of syphilis. It is also stated in this report that about the same proportion of positive reactions was found in epileptic children *without mental defect.* The chief conclusions drawn by these writers from their joint observations as a whole are (1) that "syphilis is *the causative* factor in a very considerable percentage of cases of mental deficiency of whatever degree of severity, as it is present in over 50 per cent."; and (2) that "syphilis is also the main *causative* factor in the production of that type of epilepsy which manifests itself at early ages." It is necessary to comment now only on the first of these conclusions.

That this conclusion is wholly unwarranted by the facts adduced needs no detailed demonstration. Granting the accuracy of the test and the facts generally, nothing is shown but that in about half of the cases examined some degree of mental defect co-existed with evidence of the presence of the syphilitic virus. In the other half of the cases examined the test was mainly "negative," but in a few "doubtful." It is true that Dr. Fraser examined 23 "normal" children as "controls," and finding that 19 gave a "negative," 2 a "positive," and 2 a "doubtful" result, regarded this observation as "significant," in spite of the smallness of the number examined. But it is clear that this number is far too small to be of any value in lending support to the conclusion arrived at, that syphilis is *the causative* factor of at least half the cases of mental defect in children; and it must be remembered that 8 per cent. of the *normal* "controls" showed a *positive* reaction. It is surely necessary, before even entering into any discussion of a causal connexion between syphilis as evidenced by the Wassermann test and mental defect generally, to ascertain the frequency of the positive reaction in large numbers of children of similar status and condition who, by common consent, can be classified as of good or average mental capacity. And it is equally clear that, whatever might be the result of this preliminary observation, the inquiry into the validity of this particular hypothesis of the causation of "mental defect," in the wide sense of this term employed by the writers, would not, from the point of view of scientific method, be far advanced, but only just beginning.

It has been said above that there are very great discrepancies between the results obtained by many different observers who have applied the Wassermann test to cases of "mental defect." We have seen that Dr. Fraser and Dr. Watson claim very positively that they have *proved* more than the concomitance of syphilis and mental defect in over half of the 194 cases examined. They assert that the one is the *cause* of the other. With their result must be contrasted that of an inquiry (referred to by themselves) which was based on the examination of 2061 cases of mental defect by *four* observers.[1] This research showed a percentage of only 1·5 cases with a positive reaction to the test.

Even assuming that the Wassermann process may be regarded as an absolutely scientific test for the presence of syphilitic infection, it is clear that at present no positive conclusions as to the relations of mental defect to syphilis can be drawn from any

[1] See Berliner Klinische Wochenschrift, 1911, xlviii., p. 891.

accounts hitherto published. Further, there has been hitherto, as far as I am aware, no attempt made to ascertain the frequency of positive reaction to the test in the blood of large numbers of individuals of similar conditions to those composing the special groups under investigation, but to whom "mental defect" cannot be attributed.

And with regard to the Wassermann test itself, especially in view of the wide-reaching and important conclusions which are now being positively drawn from its results, it must be remembered that experience has shown, and is showing, the great frequency of disagreement between observers concerning the facts observed. Cases have occurred where the same blood has been examined by three different experts in hæmatology, with the respective results of "positive," "negative," and "doubtful"; and it is known that the issue of the observation is often doubtful when the individual is under treatment. In relation to any question respecting the pathogenic action of syphilis, and notably in cases where practical and public interest and action may be concerned, there is clearly great reason to pause before accepting the facts and, by consequence, the inferences of those who promulgate practical doctrine on the strength of their use of the Wassermann process alone.

I am, Sir, yours faithfully,

March 7th, 1914. H. BRYAN DONKIN.

*** In connexion with Sir Bryan Donkin's valuable and suggestive letter we refer readers to the prefatory statements in Dr. Carl Browning's description of the technique of the Wassermann reaction, published in this issue of THE LANCET. Dr. Browning points out that "the limit of reacting power which differentiates a positive serum from a negative one must be arbitrary, and requires to be fixed by experiment for any given combination of 'antigen' and serum."—ED. L.

THE TREATMENT OF INCIPIENT AND UNCONFIRMED INSANITY.

To the Editor of THE LANCET.

SIR,—Your excellent leading article on this subject voiced a spirit of caution, and I venture to think that you expressed the feeling which many who have had much experience in lunacy administration hold. If it is a fact that the dread of lunacy certificates prevents the early treatment of acute mental disease, then by all means do away with them if possible. But is it a fact? Are people now prevented from being properly treated through the fear that if so treated they will be certified? To some extent this seems undoubtedly true. The objection of the public to certificates of insanity is easy to understand, and in its way this hesitation is useful because it tends to retard the premature interference with the liberty of the patient; but my experience is that where the danger of delay is fully explained to the friends, the difficulty of getting them to see the necessity for certification disappears.

Certificates are framed primarily for the protection of the patient, though at times the safety of the public and the interests of the family may be the primary factors; and I have often found that this question of "slur and stigma" depends largely upon the attitude of the patient towards his friends, for the moment he becomes troublesome or threatening or inclined to squander money all the qualms about "stigma" suddenly disappear and are replaced by urgent clamours for the protection afforded by certificates. What really frightens the friends is the word "insanity," not the mere certificates, but the idea that there is brain disease in the family, and they use all sorts of subterfuges for putting others off the scent. The patient is either "neurotic," or "neurasthenic," or "hysterical," or has "had a nervous breakdown," or he has "brain fever," anything to save the word "insanity," and the dread of certificates and registration is mainly due to the fear that by these processes the fact of insanity in the family will become widely known. Of course, certificates are the official cachet of the fact that insanity exists, and this may be one reason why the friends are so opposed to them, and much as they dislike the idea of insanity in the family they dislike still more the official stamp of it.

Have we in the course of medical progress arrived at the time when there is less need for certificates? Are the conditions of to-day so much more favourable for the treatment and the safety of the patient that certificates are less necessary than formerly? If so, I confess that I see no outward sign of it. Only last year on urgent medical and lay representation a new Act was passed to include under compulsory restraint many who it appears cannot even now be entrusted to the care of their friends, and powers are given in this new Bill to provide new institutions and officials to work them! The Board of Lunacy Commissioners has been increased and new duties of supervision thrown upon it. Does this look as if the late methods erred on the side of stringency? Does Dr. Armstrong-Jones suggest that any considerable number of the certified acute mental cases under his care could, with advantage to themselves, be released from their certificates and might dispense with the inquisitorial care of the Commissioners, and does he look forward to a time when the powers of the latter will be less needed?

Dr. Armstrong-Jones uses very forcible expressions about "slur and stigma," but it must be supposed that he is guided in his remarks by hearsay evidence, because his patients are already certified when they come under his care, and so (I hope it will not be thought irrelevant of me to say it) he has not the opportunity of seeing the very early cases whose treatment without certification he earnestly advocates. Do the friends of the patients under Dr. Armstrong-Jones's care express to him their objection to the mere fact of certificates, or is it that what they really object to is the detention in an "asylum," and is it probable that their objections would disappear if the patients were in a "mental hospital" or "home" without certificates or supervision? The friends of patients who are in institutions under certificates ought to know that they can always remove them on giving guarantee of responsibility. How often do they do this? Medical men in private practice know that the proposal to certify a patient is generally coldly received, and there is no doubt that in the doctor's desire to meet the friends' wishes many patients are allowed to be at large who would be better placed under certified care, and one result of this is that "accidents" happen. I believe that medical men have the greatest objection to signing certificates, looking upon them as indicative of the failure of treatment, just as a good surgeon shuns operating if he can possibly help it, and views it as the last resource in the interest of the patient, all other treatment failing. The question now arises whether the friends of patients ought to be allowed to enforce their objections to certification when treatment cannot be adequately carried on at

home. In the case of infectious disease there must be notification, and, *nolens volens*, the patient is promptly carried off to a special hospital, and though it cannot be suggested that private cases of incipient insanity should be notified, it does not seem undesirable that if a patient is in a state fraught with danger to his mental integrity he should be denied proper treatment because of a sentimental objection to his being safeguarded! There are, in fact, cases where the measures which are freely allowed in infectious disease should be extended to mental conditions when these assume symptoms of a force dangerous to the patient or the community, and it is open to doubt if mental hospitals can be successfully carried on without some means of detaining the patient if he refuses to stay, for it is notorious that the voluntary boarder system breaks down in the very cases where one desires most to try it. The patient simply will not sign the request for admission, though knowing that he can voluntarily leave at a few hours' notice.

The proper treatment of insanity is daily becoming more complicated and individual, and, moreover, it is very expensive. I doubt if, except for the wealthy who can afford to have the aid of special advice and of any known form of treatment, it can be carried on successfully in the small private homes to which Dr. H. Rayner, in his letter to you of Feb. 7th, so properly objects. The question is full of difficulties. If—as seems to be now held—there is a demand for hospitals for the treatment of incipient insanity where no certification and no inspection is required, by all means let the demand be met, because it may turn out that we have been unnecessarily cautious, and that certification and registration are mere bogies to which we have accorded undue reverence, but I doubt if the public will be really satisfied unless there is some guarantee that the Lunacy Commissioners sanction all that is done in them. People generally have no idea of the numberless ways in which certificates and the supervision of the Commissioners protect the patients, and how they ensure that no new treatment nor anything out of the common shall be attempted before the consent of the friends is obtained.

Once certificates and supervision are abolished there is no limit to the machinations of unscrupulous persons, and many people who are now going about freely owe more than they think to the fact of the safeguard of certificates, as but for them many would certainly find themselves in captivity. I know of such cases. I should like to see the French plan of "*conseil de famille*" introduced into this country—an arrangement by which the members of a family meet in conclave, discuss the *pros* and *cons* of the case, and then act in concert. It would prevent much bickering and misunderstanding.

Brain disease when it constitutes insanity is a terrible thing for a family, and all must sympathise with any proposal which shall relieve the patient and friends from the fear of its being known. Therefore it is fitting that if the certificate does stand in the way of early treatment—a statement which is, I think, much exaggerated—the trial of a method by which free and unimpeded treatment may be obtained should be seriously contemplated. In the meantime is it altogether wise to join the chorus of those who keep on reiterating the words "slur and stigma" in connexion with certification? Surely, knowing the security afforded by these safeguards, we should use every endeavour to reassure the public and to make them see that certificates are but the legal expressions of a condition which already exists, and that it is not the certificates which make the insanity, whilst the difficulties and the dangers in the making of them are all in favour of delay in their employment except when other means have failed to cure or safeguard the patient.

We want the public to understand that we are quite ready to make trial of the new experiment, but perhaps under certain conditions, some of us think, such as notification and some degree of supervision, questions upon which the opinions of the Commissioners in Lunacy ought to have the greatest weight.

I am, Sir, yours faithfully,

Weymouth-street, W., March 2nd, 1914. T. CLAYE SHAW.

A COMPARISON OF THE ACTIONS OF CHLOROFORM AND ETHER ON BLOOD PRESSURE.

To the Editor of THE LANCET.

SIR,—A paper by Dr. H. P. Fairlie, anæsthetist to the Royal and Western Infirmaries, Glasgow, appeared in THE LANCET of Feb. 28th, the last paragraph of which reads as follows: "Based on those observations I think that ether is the anæsthetic of choice for short operations or for those operations where little shock is anticipated, while chloroform is better for prolonged operations and for those where considerable shock is anticipated."

I am tempted to reply to his paper as it appears to me that he arrives at certain conclusions based on those observations which in the light of present knowledge are most certainly erroneous. He has fallen into the common error that low blood pressure causes shock and is synonymous with it. He accepts Crile's theory of shock, "that it is a condition resulting from a fall in general blood pressure due to exhaustion of the vaso-motor centres." This theory has been proved to be untenable by numerous observers. Seelig and Lyon have shown that stimulation of the central end of the cut vagus causes a rise of blood pressure, and that the rise occurs even when the animals are deeply shocked, showing that the vaso-motor centre is still perfectly active.

Numerous other observers, approaching the subject from different points of view, have shown that the vaso-motor centres, far from being easily exhausted in shock, do their duty practically to the end. In this country Malcolm has written profusely on the subject, and many of his ideas on blood pressure and shock are generally accepted. The Malcolm *versus* Mummery controversy is still green in the minds of those who are interested in the subject.

I quite agree with Dr. Fairlie that a sudden fall of blood pressure during an operation may well mean shock and may be due to the anæsthetic, but I fail to see how he can attribute a fall of blood pressure, in which there is practically no change in the pulse-rate nine hours after the operation, to the ether which he administered during the operation. There may be other explanations (see Chart 4). He gives us no clinical data as to the condition of the patient apart from the blood pressure—one man with a blood pressure of 100 may be *in extremis*, while another may be little affected; this shows the error of considering blood pressure as synonymous with shock. Judging from the Charts 3 and 4 in Dr. Fairlie's paper I would not expect that

either of the cases would be classified as operations which had involved a severe degree of shock.

Referring to the post-operative condition he writes as follows: "At a time when it is of vital importance that patients should make use of all their resources, after chloroform anæsthesia they are better able to do so than after ether." If Dr. Fairlie is correct it means that almost every surgical clinic in the world is wrong, and that practical experience has gone for nothing. Chloroform has had its day—open ether has ousted it completely. Chloroform is much the more toxic drug; it is more difficult to administer safely and is much more conducive to shock. All experience goes to support this statement. Chloroform should never be used alone, and never as the terminal anæsthetic. Whenever I see it administered I always think what a foolhardy procedure it is—a highly dangerous drug is being administered in quite unknown doses. I can hardly conceive a condition, at any rate in hospital practice, in which there is any excuse for administering it. In a few clinics chloroform is still used in special cases as an introduction to open ether, but I am doubtful if it is advisable in many of those cases.

Scotland, the home of chloroform, stuck to its own far longer than was justifiable. I am glad to see it banished or nearly so. We have much to learn from the American surgeons on the subject of anæsthesia. They are ahead of us, and the further west you go the further on they are. Just as open ether has displaced chloroform, so it in its turn is being displaced by nitrous oxide and oxygen, a combination which is suitable in a large percentage of cases. Undoubtedly it has disadvantages. It requires special apparatus and special knowledge, but its advocates can say of it that it is the safest general anæsthetic known, being practically non-toxic.

Gas and oxygen when combined with local anæsthetics and sedatives according to Crile's anoci-association method[1] is claimed to have solved the problem of shock. The technique is complicated, requiring time and trouble, but I do not think that there is any doubt that the results justify the proud claims that have been made for this method. It is certainly a great advance, and I would suggest that Dr. Fairlie should compare his charts with those of Bloodgood, published in the Annals of Surgery, December, 1913, in which anoci-association method has been carried out.

In the light of present knowledge it is hardly fair to subject patients whose ability to stand an operation of very great magnitude is highly problematical to a more dangerous anæsthetic than gas and oxygen properly administered; and anæsthetists highly trained in the use of gas and oxygen are much needed for major operations. As to Dr. Fairlie's recommendation to start with ether and continue with chloroform, surely in spite of all theories to the contrary this is exceedingly bad advice. I have had more frights when seeing this method carried out than any other. Your anæsthetist, unfortunately very frequently quite inexperienced, is requested to administer ether by the open method. Owing to his faulty methods he fails to keep the patient under sufficiently, and on being remonstrated with pours in a liberal supply of chloroform; the patient, who is breathing deeply under the influence of the ether, rapidly gulps down a large dose of chloroform, a highly toxic drug, and the result is just what one would expect, the patient's respiration or circulation fails. I fully realise that the above sequence of events is not so likely to occur in the hands of an expert.

I may say I have substituted my chloroform bottle in my midwifery bag for a larger one which contains ether, and I have every reason to be satisfied with the change. All honour to the discoverer of chloroform, but his discovery has had its day, and I hardly think that Dr. Fairlie will resurrect it by his blood pressure observations.

I am, Sir, yours faithfully,

G. MCCALL SMITH, M.B., Ch.B. Edin.,
Perth, Feb. 28th, 1914. F.R.C.S. Edin.

[1] THE LANCET, July 5th, 1913, p. 7.

PAROXYSMAL TACHYCARDIA IN A CHILD.

To the Editor of THE LANCET.

SIR,—In your issue of March 7th is recorded a case of this kind which was shown at the Royal Society of Medicine. Dr. G. A. Sutherland, I see, asked what was the prognosis. Little, I think, is known on this point, and therefore it may interest your readers to know that a patient whom I saw when she was 11 years old, and described in the Clinical Society's Transactions, vol. xxx., in 1897, is now a stewardess on an Atlantic liner. I believe Dr. Sutherland, who was my colleague at the Paddington Green Children's Hospital, saw her with me at the time. I am, Sir, yours faithfully,

W. P. HERRINGHAM.

Wimpole-street, W., March 9th, 1914.

GANGRENE OF THE INTESTINE.

To the Editor of THE LANCET.

SIR,—The case of acute suppurative appendicitis complicated by gangrene of the ileum published by Mr. Basil Hughes in THE LANCET of March 7th is of interest from more than one point of view.

In the first place, the condition of anæmic gangrene which obtained is one of great rarity when it involves the intestine. In a recent monograph[1] I was able to collect 9 cases only of anæmic infarction of the intestine; of these cases 6 and possibly 2 more involved the ileum.

With regard to the pathology of anæmic infarction of the intestine one may say that no entirely satisfactory hypothesis has been brought forward to explain all the facts, though it appears that a gradual cutting off (e.g., by endarteritis, arteriosclerosis, or atheroma of the mesenteric branches) of the arterial circulation is an important factor. Embolism alone in practically all cases leads to hæmorrhagic lesions ranging from a few petechiæ on the one hand to infarction on the other.

A second interesting feature of Mr. Hughes's case is the history. There appears to have been a period of relative freedom from symptoms after the acute onset. This "latent" period was followed by further acute manifestations. The course of events therefore was more in accordance with what one might expect in a case of hæmorrhagic infarction due to venous thrombosis arising from an inflamed appendix than in one of anæmic gangrene of the intestine.—I am, Sir, yours faithfully,

LESLIE B. C. TROTTER, M.A., B.C. Cantab.
Ledbury, Herefordshire, March 9th, 1914.

[1] Embolism and Thrombosis of the Mesenteric Vessels.

METHODS OF INCREASING THE ACCURACY AND DELICACY OF THE WASSERMANN REACTION.

To the Editor of THE LANCET.

SIR,—Our letter to Dr. McIntosh and Dr. Fildes answers most of the points raised by Dr. Browning in THE LANCET of March 7th. It is therefore unnecessary to repeat what we have already said. We should, however, like to draw attention to the point raised by Dr. Browning *re* the effect of autolysis. We are fully aware of the fact that isolated observations have been made that autolysis of an organ might improve the antigenic value of the extract made from it. What we, however, wish to point out is that we were the first to show that it is a certain degree of autolysis that confers the antigenic property on a phosphatid, and that this antigenic phosphatid can be isolated in a pure state free from complicating factors.

We should further like to draw attention to the fact that cholesterin does not appear to have completely settled the antigenic difficulty, even among its advocates, since while Browning and McKenzie show that their lecithin cholesterin antigen is far superior to crude organ extracts such as used by McIntosh and Fildes, McIntosh and Fildes state that when comparing the value of various antigens "the poorest results were obtained with lecithin and cholesterin." [1]

Finally, we would like again to emphasise the fact that cholesterin was only introduced to bolster up a weak antigen, and that its use is unnecessary if a powerful antigen can be obtained. We have shown that such an antigen, free from all complicating factors, can be obtained by our method, and of such potency that three-millionths of a gramme will cause complete fixation in the Wassermann reaction.

We are, Sir, yours faithfully,

FRANCIS H. THIELE.
DENNIS EMBLETON.

Bacteriological Laboratory, University College Hospital Medical School, March 10th, 1914.

A NATIONAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—I am glad that Dr. Lauriston Shaw and Dr. Major Greenwood recognise that the present system of bringing the profession into touch with disease is far from satisfactory, for that is the first step towards evolving some better method. A State Medical Service seems to me the only way of remedying existing evils, of combining the advantages of preventive and curative medicine, and of putting modern methods of diagnosis and treatment within the reach of all. Judging from the correspondence in your columns and in those of other papers the majority of the profession seem prepared and even anxious to go a long way towards the establishment of such a service, and certainly all legislation is tending that way by enlisting more and more medical men as part-time or whole-time servants of the State, thus limiting the sphere of private practice.

There are many ardent advocates and no real opponents of a Board of Health with a Minister of Cabinet rank to coördinate, control, and extend all existing State and municipal medical services. Indeed, the British Medical Association drafted a Bill for the formation of a Board of Health in 1904. Then there is a widespread opinion amongst panel doctors that there should be a State-paid staff of consultants, specialists, and bacteriologists to whom they could refer their patients; and there are also many who recognise that there must be greatly increased hospital accommodation for insured persons, if they are to receive adequate medical treatment as promised by the Act, and that the necessary hospitals should be, and must be, provided by the State or municipality. Again, there are many who recognise that within the next few years the medical benefits of the Insurance Act will be extended to the dependents of insured persons, which will necessitate a great section of the profession devoting their whole time to insurance work. Thus, with the establishment of a Board of Health, with the coördination of existing State medical services, and the coöperation of preventive and curative forces, with the appointment of a staff of salaried consultants and specialists, with the provision of State or municipal hospitals, and with a large number of general practitioners devoting their whole time to insured persons and their dependents, there will come into existence a complete State Medical Service, the benefits of which will be open to some 39,000,000 of the population. The question whether these benefits should be extended to middle-class people with incomes over £160 a year, many of whom are denied all that modern methods can offer because of the cost, will remain to be decided. It will also have to be decided how the general practitioners shall be remunerated and how their panel lists shall be regulated, whether by the present competitive panel system with all its uncertainties, stress, and strain, or whether by definite salaries with regulated work. It seems to me that the profession will in time itself decide in favour of the latter. I cannot conceive that patients will greatly concern themselves with the particular method by which doctors are remunerated, or that they should become reluctant to seek advice should a system of salaries be finally decided upon, as suggested by Dr. Shaw.

In the last paragraph of his letter Dr. Shaw raises a most interesting question—that of compulsory medical treatment. I am quite ignorant as to what the policy of the Socialist party would be in this matter, though I expect it would be strongly opposed to it under existing circumstances. If Dr. Shaw, however, will give the matter his careful consideration, he will realise how far both Liberal and Conservative legislation has already rendered medical and surgical treatment compulsory. A recent decision in the High Court, whereby Mr. Justice Darling laid it down that under the Children's Act of the present Liberal Government the justices of the peace might properly convict and imprison a parent for refusing to submit his child to a surgical operation when advised to do so by a doctor, set me thinking about the whole subject, and I became convinced that if the existing laws were enforced the treatment of all children and most adults was even now directly or indirectly compulsory. Consequently I became more than ever convinced that the time had arrived when a complete medical and surgical service should be provided by the State, free and open to all, just as free education has been provided since it was made

[1] Browning and McKenzie: Brain, vol. xxxvi., part 2, p. 197.

compulsory in 1871. It must be wrong to compel a wage-earning parent to submit his child to an operation without giving him full and adequate opportunities for complying with the law. Such opportunities do not exist at present.

I am, Sir, yours faithfully,

March 11th, 1914. CHARLES A. PARKER.

THE UNIVERSITY OF LONDON: EXTERNAL STUDENTS IN THE FACULTY OF MEDICINE.

To the Editor of THE LANCET.

SIR,—Will you allow me to correct a printer's omission in my letter to you of last week? I am made to say on p. 711, column 1: "I fear it must be acknowledged that there is more affection displayed by the average man towards his University." I wrote, and my recollection is confirmed by reference to the typed duplicate of my letter, "I fear it must be acknowledged that there is more affection displayed by the average man towards his College than towards his University." The omission impairs my argument, which was directed to show that as long as external students are welcomed by the Colleges it is illogical for possessors of the College diplomas to object to the reception of external students by the University.

I am, Sir, yours faithfully,

March 9th, 1914. E. GRAHAM LITTLE.

COMPULSORY MILITARY SERVICE AND NATIONAL HEALTH.

To the Editor of THE LANCET.

SIR,—It is admitted with almost pathetic unanimity that the above is not a party question. It is equally certain that it is not entirely a political matter. In any case some of the arguments upon which the adoption of national military service is advocated touch on the ground of social hygiene and merit consideration from those best qualified to judge—namely, the medical profession.

When Lord Roberts, in addressing Mr. Asquith, refers to "the value of the physical training of more than half our population," he states in a nutshell what may be termed the health argument of the National Service League. It has, indeed, become an axiom that whatever may be said for or against war, its anticipation and preparation by universal military service will regenerate the health of the nation.

Now, it is surely evident that any one group of the same age and sex forms but a small part of the whole population and of the complicated problem of national health. Young men of the age of 18 form less than 1 per cent. of the nation, and therefore an extremely small part of the problem of national health. The 50 per cent. of that small proportion that would be accepted as sound and fit for military service make up exactly half of the 1 per cent. of the whole population and, being healthy, no part at all in the problem of national health. So far as the young men of the nation are concerned, that problem lies in the half rejected by the military authority and in the reasons that have led to that rejection. No service in the world admits into its ranks unfit recruits in order that their physique may be improved. Army service, even for home defence, cannot be looked on as a sanatorium or a convalescent home.

It is surely obvious that the real problem of national health is far other and depends upon urbanisation and its consequences—poverty, overcrowding, alcoholism, and filth. It involves measures dealing with tuberculosis, contagious diseases, unhealthy industrial conditions, infantile mortality. It is a question of housing, of food, of drainage, of water-supply, not of the military training of healthy young men.

When it has been shown that the adoption of compulsory military service will solve some of these problems, then, and not until then, should the medical profession approve it as a measure of health reform. In the meantime Great Britain is spending nearly £100,000,000 sterling annually on her army and her navy. How many millions is she spending, by the vote of her Parliamentary representatives, on the solution of such a national problem as that of infantile mortality, to take but one example?

I am, Sir, yours faithfully,

Paris, March 2nd, 1914. A. A. WARDEN, M.D.

SOME POINTS IN HÆMOPHILIA: A PERSONAL EXPERIENCE.

To the Editor of THE LANCET.

SIR,—As a sufferer myself and a medical man I am doubly and closely interested in the case of hæmophilia reported by Dr. Carmalt Jones in THE LANCET of Feb. 28th. On one point which he mentioned I differ from him. In my experience recent adhesions in a hæmophilic joint can be safely broken down without danger or risk of articular effusion. This is not fully recognised, and most surgeons, I think, are shy of touching a hæmophilic joint. The adhesions seem, as a rule, to be periarticular and not intra-articular, and if they are broken down, though considerable pain results and a little swelling occurs in the tissues around the joint, the joint itself remains free from effusion, no trouble is set up in it, and in a few weeks' time the patient has a useful limb once more. Suffering as I do myself, and having had also to treat the disease in two relations, I have had more experience in hæmophilia than falls to most people, and I would never hesitate to break down adhesions in a hæmophilic joint, provided, of course, that an X ray photograph had been obtained showing that the limitation was not due to bony outgrowths. To illustrate this may I narrate a personal experience.

Some years ago a fall set up such acute trouble in my left knee that it was eight months before it subsided, and meanwhile adhesions formed which so limited movement that the leg could only be bent to about a third of a right angle. After suffering the inconvenience of this for some time, I desired that the adhesions should be broken down. All my colleagues whom I consulted were strongly against this on account of the supposed risk, and advised massage and passive movements instead. These being tried and found useless, I insisted on having my own way, and so 12 months from the fall and about nine months from the time the adhesions formed I was given an anæsthetic and the adhesions were broken down. They gave way quite easily, I understand, and the leg was flexed at a right angle. Greater resistance was then felt, and as that had been my previous limit of flexion the limb was left at that point, being then placed between sand-bags in the extended position.

This last point was not as I had wished and events proved that I was right. Considerable pain resulted for nearly a week and there was slight

puffiness in the tissues round the knee, but the joint itself remained perfectly free from any swelling or effusion. The effect of putting the leg up in the straight position was seen when the pain and puffiness subsided in about 10 days and the leg could be flexed; it was then found that movement was as limited as before, the adhesions apparently having united again. Three weeks from the date of the first attempt I had the performance repeated, but this time had the leg left as strongly flexed as was possible, passive movements being started 48 hours afterwards and continued daily. The course was just as free from trouble as before, though the pain was greater on account of the passive movements. However, in three weeks' time I was walking about with a useful limb, and to-day, seven years afterwards, I can flex it to about two-thirds of a right angle—i.e., sufficiently for most purposes.

Though hæmophilia is a rare disease I bring this point forward, as it is one of considerable importance to a hæmophilic. Movement may be so limited in a joint by adhesions that if the surgeon through over-caution fears to break them down, the sufferer is perforce compelled to live a crippled and perhaps an invalid existence. Whereas if it is recognised that movement may safely be restored then the patient may be able, as I was, to follow his profession once more and earn his own living.

I am, Sir, yours faithfully,

March 3rd, 1914. HÆMOPHILIC.

THE NATIONAL INSURANCE ACT.

MEDICAL CARDS RETURNED BY THE DEAD LETTER OFFICE IN MIDDLESEX.

THE Middlesex Insurance Committee finds that out of 206,484 medical cards sent by post to insured persons 12,054 have been returned through the dead letter office, and a still larger figure is given with regard to insured persons not traced by the committee. Naturally the county is one in which a large proportion of the working population is continually on the move either within the county or to places beyond its boundaries. The committee proposes to appoint a registrar at a salary of £200 a year to deal with the matter.

BOROUGH OF LAMBETH INSURANCE PRACTITIONERS' ASSOCIATION.

At a meeting of the executive committee of this association held on Feb. 28th recommendations were drawn up dealing with the allocation of insured sick persons in Lambeth who have not chosen a panel doctor. A report of the working of the association was presented by the honorary secretary. This report will be presented to the general meeting of the association to be held at the Horns Hotel, Kennington, on Tuesday next, March 17th, at 9.30 P.M., when Dr. C. Addison, M.P., has consented to attend and address the meeting on the present position under the Insurance Act. Insurance practitioners from other districts are invited to attend, and admission will be by private card.

THE LONDON INSURANCE COMMITTEE AND INQUESTS.

Coroners in London have been requested by the Home Office to arrange for the London Insurance Committee receiving information as to cases of deaths of insured persons in which they are likely to be interested.

"SURPLUS FUNDS" IN LONDON.

Mr. H. Bazett, of St. Mary's-terrace, Paddington, and Dr. A. R. Eates, of 12, Thayer-street, Manchester-square, are organising a meeting to be held at the house of the latter on Tuesday next, March 17th, at 3 P.M., in response to a large number of letters they have received from panel doctors who are interested in the manner of dealing with these funds proposed by the London Insurance Committee. The object of the meeting is to take concerted action to test the legality of the proposed action of the committee. All panel doctors with small lists are cordially invited to attend.

NATIONAL MEDICAL UNION.

At a meeting of the London Organisation Committee of the National Medical Union held at 346, Strand, on March 9th, the following resolutions were passed unanimously:—

1. That the London Organisation Committee of the National Medical Union repudiates the action of the Metropolitan Counties Branch of the British Medical Association in attempting to elect a Local Medical Committee for London which would be unrepresentative of the profession and prejudicial to the interests of non-panel practitioners.
2. The London Organisation Committee of the National Medical Union recommends practitioners not on the panel to refrain from nominating candidates, allowing themselves to be nominated, or otherwise taking part in this election.

The secretaries were instructed to forward copies of these resolutions to the press, and also to circularise all medical practitioners resident in the county of London and not on the panel on the subject.

The circular is signed by Mr. E. Arthur Dorrell and Dr. Robert Carswell as honorary secretaries of the National Medical Union.

MANCHESTER INSURANCE COMMITTEE.

Mr. L. Lloyd Jones, chairman of the finance sub-committee, brought forward at a recent meeting of the Manchester Insurance Committee his resolution announced some time ago, "that the medical sub-committee be requested to investigate and report not later than September next as to the desirability or otherwise of establishing a full-time medical service for insured persons and their dependents at the commencement of the year 1915." The mover relied upon the allegation that insured persons were not getting the attention to which they were entitled from very many of the medical men on the panel. He contended that the system adopted encouraged the undertaking of too many patients and an excessive number of visits and consultations and did not encourage the prevention of disease. The societies had to pay sickness benefits upon certificates too easily obtained. He referred to the figures published with reference to the past year as showing £162,284 claimed by medical men as against £150,040 allowed, claims for £12,244, which he estimated as representing over 110,000 visits, being disallowed. He referred to the unequal amounts payable to the various members of the panel and to the large sums earned by several of them, also to the position of the druggists as affected by a disallowance of 110,000 consultations. He advocated a full-time medical service with an income limited to £800 a year. Discussion took place in which Dr. McGowan pointed out that the circumstance of congested districts existing was responsible rather than any fault of the medical practitioners for the conditions complained of; and an amendment was

moved by Mr. H. W. Irwin that "the Medical Subcommittee be requested to investigate and report not later than September next on the present system of medical service, and if such system is found unsatisfactary to recommend some alternative system." This was carried unanimously, Mr. Jones withdrawing his resolution. Another resolution was passed at the same meeting instructing the Sanatorium Subcommittee to furnish detailed returns showing (1) number of insured persons applying, medically examined, and recommended for sanatorium benefit; (2) number of cases of tuberculosis receiving treatment; and (3) results in cases receiving treatment.

SICKNESS IN INDUSTRIAL AND AGRICULTURAL DISTRICTS.

The sickness returns of the Manchester Unity of Oddfellows show the difference between the conditions of industrial and agricultural districts, provision for which is made at a uniform rate by the Insurance Act. The actuarial estimate of sickness benefit is given as 9*s.* 9*d.* for men and 6*s.* 6*d.* for women, the former having proved sufficient and the latter too low. The actual cost in the case of men is found to be in Lancashire 8*s.* 11*d.*, Cheshire 8*s.* 4*d.*, and Kent 6*s.* 11*d.*, and in the case of women in Lancashire 8*s.* 8*d.*, Cheshire 7*s.* 4*d.*, and Kent 5*s.* 5*d.*

MEDICAL INCOMES UNDER THE NATIONAL INSURANCE ACT.

The incomes from insured patients earned by medical men practising at Bradford may be compared with the figures given in THE LANCET of Feb. 28th, p. 649, for Manchester and Leeds. At Bradford during the past year seven medical men earned between £1000 and £1500, two between £800 and £1000, both of these making less than £900, 15 between £500 and £800, 32 between £300 and £500, and 13 between £250 and £300, and 29 made less than £50. From this it will be seen that 45 making between £250 and £500 a year represented a considerable portion of those on the panel, the total of which was 117. The largest income was made by a practitioner with 4000 patients on his list and no partners, with which may be compared the list of 5177 credited to one medical man on the panel in London. In the metropolitan district out of an average total of 909 medical men upon the panel, 172 have lists of more than 2000, the number which the Insurance Committee desires to establish as a limit, 340 have been 1000 and 2000, and 500 have less than 500.

THE WEST RIDING INSURANCE COMMITTEE.

At a recent meeting of the West Riding Insurance Committee it was stated that the number of patients admitted to sanatoriums was 641. A considerable amount of work was being done in the treatment of consumption, but difficulty was being experienced in the finding of suitable ground for the erection of sanatoriums. A prolonged discussion took place upon the question whether a list of the medical men upon the panel with the number of their patients should be supplied to each member of the Insurance Committee or only to members of the Medical Benefit Subcommittee, as recommended by the latter body. The amendment which proposed that the information should be given to the whole committee was strongly opposed by medical members, but was eventually carried by a large majority.

THE LIMITING OF PANEL PRACTICE.

With regard to the limiting of the number of patients to be undertaken by any member of a panel, the proposal of the Medical Benefit Subcommittee at West Bromwich may be mentioned, as differing in form, if not in principle, from others which have been observed. The subcommittee recommended that in accordance with the Insurance Commissioners' opinion no arbitrary limit should be fixed, but that there should be a resolution of the Insurance Committee that it was undesirable that one practitioner should undertake more than 2500 persons, and also that in the present and in future years allocations for the purpose of distributing surplus funds should not cause the number of persons on any medical man's list to exceed 2500.

BOURNEMOUTH INSURANCE COMMITTEE.

In the report of the Sanatorium Subcommittee presented to the Insurance Committee at Bournemouth the following figures relating to the period from Jan. 15th, 1913, to Jan. 11th, 1914, were given. Number of persons who had applied for and received sanatorium treatment 75, 38 being men and 37 women; cost of institutional treatment for 25 men and 27 women, £825; cost of domiciliary treatment for 40 men and 31 women, £725. The Medical Benefit Subcommittee reported that medical treatment had been supplied to 126 temporary residents. The same body recommended that the report of the committee considering the question of malingering be waited for before steps should be taken in the matter of apppointing a medical referee. Upon this a discussion took place with regard to medical referees and the question of malingering, the appointment of a referee at Bristol and its results being referred to. A speaker, Mr. Bartlett, spoke of the stories of malingering as exaggerated, and said that in the society which he represented payments in respect of sickness benefit during the past 18 months had, if anything, been less than in previous periods. The chairman suggested that returns from various societies would be desirable before any conclusion was arrived at, and further consideration of the question was postponed.

WEST-END HOSPITAL FOR NERVOUS DISEASES.—The annual meeting of governors of this institution was held on March 3rd, the chair being taken by Mr. Leonard Brassey, M.P. It was reported that the income for 1913 amounted to £7430, as compared with £6798 in 1912. The total expenditure was £7907, as compared with £6350 in 1912; but repayment of debt and such items accounted for £1792 of this, compared with £408 in 1912. An average of six additional cots had been maintained in 1913. The debt had been reduced from £5431 to £3660. Patients treated in the wards numbered 273, and the average duration of their stay in hospital was 62 days. New out-patients numbered 2521, and the total of out-patients' attendances was 29,046. The total of massage and electrical treatments given was 22,091, against 19,030 in the previous year. By the exercise of much care the weekly cost of an in-patient had been reduced to £1 11*s.* 7*d.*, and the cost per out-patient visit to 10·35*d.* The urgent need of the extension and rearrangement of the hospital was universally recognised, but a large sum was required before building operations could be commenced. Appeal was made for aid to extinguish debt, for rebuilding the hospital, and for maintaining the annual subscriptions.

Medical News.

UNIVERSITY OF CAMBRIDGE.—The following medical degrees have been conferred :—

M.D.—P. H. Bahr, Trinity; and R. M. Courtauld, Pembroke.
M.B., B.C.—H. W. Willcocks, Caius; E. J. Bradley, Jesus; and A. C. Clifford, Emmanuel.
M.B.—J. M. Jarvie, Emmanuel.

The Senate of the University are voting to-day (Saturday), at 2 P.M., whether application shall or shall not be made for a Government grant for the assistance of the medical department of the University. A *non-placet* notice has been circulated, with some important signatures, which sets out the alleged risks of putting the teaching of the University under Government control. All medical members of the Senate are therefore earnestly requested to support the Grace by their votes, and fly-sheets have been issued to the Senate of an unusually forcible kind. All the professors and lecturers in medical subjects append their names to a refutation of the *non-placet* circular; a second fly-sheet is signed by the professors, readers, and lecturers in allied subjects; while a third fly-sheet, supporting the views of the Medical Board, is bound to have great influence with the constituency, as it is signed by 47 of the best known among the teachers of the University "unconnected with those departments which are concerned with the teaching of medical students."

ROYAL MEDICAL BENEVOLENT FUND.—At the February meeting of the committee 26 cases were considered and grants amounting to £278 voted to 23 of the applicants. Appended is an abstract of the cases relieved :—

Widow, aged 58, of M.R.C.S., L.S.A. Since husband's death about a year ago has supported herself as nurse companion but has recently been obliged to give up the post and requires assistance whilst obtaining another; children unable to help. Voted £5.—Widow, aged 45, of M.R.C.S., L.R.C.P. Receives a small sum quarterly as payment for the practice but requires a little help for unavoidable expenses; two children, aged 16 and 14. Voted £5.—M.D. St. Andrews, aged 76. Has done excellent work as visiting physician to different institutions but has never had much private practice and has now come to an end of his resources; practically incapacitated by the infirmities of old age. Elected to an annuity of £20.—Widow, aged 61, of M.R.C.S., L.R.C.P. Has devoted her means to the education of her children and is now quite unprovided for. Voted £12.—Daughter, aged 32, of L.R.C.P., L.R.C.S. Used to be a mental nurse, but for several months past has been in very bad health, and is ordered a change which she cannot afford. Voted £10.—Widow, aged 59, of L.R.C.P., L.R.C.S. Irel. Supported her husband during a long illness, and is now quite broken down in health; children unable to help. Voted £18.—Widow, aged 58, of L.R.C.S. Edin. No income; precarious earnings from needlework and letting lodgings and slight help from children. Relieved five times, £6. Voted £12.—Daughter, aged 66, of late M.R.C.S., L.S.A. Was comfortably provided for by her father, but was defrauded by her trustee, and is now dependent on a small annuity from a charitable society. Relieved three times, £48. Voted £12.—Widow, aged 53, of M.R.C.S., L.S.A. Has a small income, but is obliged to ask for assistance owing to the afflictions of her children, three of whom are deaf and dumb. Relieved 11 times, £70. Voted £10.—Widow, aged 65, of M.R.C.S. After husband's death endeavoured to establish a boarding house at the seaside, but lost all her capital. Now has a situation as cook, but feels she is unequal to the work, which is very hard. Relieved three times, £36. Voted £12.—Widow, aged 47, of L.S.A. Two children, aged 11 and 9, and finds her small income insufficient for unavoidable expenses. Relieved once, £5. Voted £12.—Daughter, aged 58, of late M.R.C.S. Is mentally afflicted and obliged to live under supervision at the expense of two sisters, who each have to earn their living. Relieved nine times, £81. Voted £10.—M.D. Edin., aged 53. Met with a severe accident two years ago, and is not able to support himself again; dependent on a widowed sister whose income is small. Relieved once, £12. Voted £18.—Widow, aged 67, of L.R.C.P., L.R.C.S. Edin. Supplements a pension from a charitable society by teaching and letting lodgings, but has had her rooms empty for several months and has incurred unavoidable expenses through the illness of her daughter, who is a governess. Relieved 14 times, £102. Voted £10.—Daughter, aged 47, of late F.R.C.S. No income, and incapacitated by gastric ulcer. Relieved 15 times, £129. Voted £12.—Daughter, aged 53, of late F.R.C.S. No income and such indifferent health that she finds it most difficult to get a situation and impossible to retain one. Relieved eight times, £52. Voted £12.—Widow, aged 45, of M.B., C.M. Edin. Left unprovided for at husband's death after a long illness; seven children, of whom three are self-supporting and the remainder dependent. Only income £12 a year from another society. Relieved twice, £32. Voted £20.—Daughter, aged 57, of late M.R.C.S. Health so indifferent that she can only earn a few shillings a week, and is practically dependent on this Fund and another charity. Relieved six times, £96. Voted £18.—Widow, aged 64, of M.R.C.S. Injured her right hand several years ago, and has found it practically impossible to obtain employment; slight help from children. Relieved ten times, £118. Voted £12.—Widow aged 46, of L.S.A. Left quite unprovided for at husband's death three years ago and endeavours to support herself by letting lodgings at a seaside resort, but has had a very bad season. Two children, aged 10 and 8. Relieved once, £5. Voted £10.—Daughter, aged 62, of late M.R.C.S. Only income a small Government annuity purchased a few months ago with a legacy, and suffers from a permanent affliction which renders occupation practically impossible. Relieved three times, £36. Voted £6.—Widow, aged 40, of M.B., C.M. Aberd. Only income a small monthly grant from another society, and is incapacitated by a chronic complaint. Two children, aged 14 and 12. Voted £12.—Daughter, aged 42, of late M.D. St. And. Has supported herself for some years by massage, but broke her right forearm some months ago and is still incapacitated. Relieved twice, £20. Voted £10.

Contributions may be sent to the honorary treasurer, Dr. Samuel West, 11, Chandos-street, Cavendish-square, London, W.

UNIVERSITY OF OXFORD.—The following appointments have been made: Dr. Walter Ramsden, University Lecturer in Chemical Physiology; Mr. A. P. Dodds-Parker, University Lecturer in Applied Anatomy: and Dr. S. E. Whitnall, University Demonstrator of Human Anatomy.

EXETER DISPENSARY.—The annual meeting of the subscribers of the Exeter Dispensary was held on Feb. 26th. The medical report stated that the number of recommendations made was 3732, against 4654 in 1912, the decrease being due to the National Insurance Act. The financial statement showed a diminution in subscriptions, and a deficit of £390 remained at the close of the year.

DEVON AND EXETER DENTAL HOSPITAL.—The thirty-fourth annual meeting of the subscribers to this institution was held on Feb. 27th. The report showed that 3231 cases had been treated during 1913, making a total of 144,931 since the foundation of the hospital. The financial statement was satisfactory. The committee states that through the kindness of Mrs. Nosworthy, who contributed £500 for the scheme, a fund has been inaugurated for granting assistance to deserving patients requiring artificial teeth.

RADIUM FOR USE AT MANCHESTER.—At a meeting on March 9th of the general committee dealing with the administration of the radium which it is proposed to purchase for the Manchester hospitals it was decided that the Manchester Royal Infirmary is to be the place where the radium should be stored. It was also agreed that the board of management of the Royal Infirmary should consider the propositions put forward by the scientific members of the general committee with regard to the administration of radio-emanations and report to a further meeting of the committee.

ROYAL PORTSMOUTH HOSPITAL.—The sixty-fifth annual meeting of supporters of this hospital was held in the Town-hall on Feb. 27th. The report stated that there had been an increase of 8 per cent. in the in-patients, a decrease of 13 per cent. in the out-patients, and a falling off in the casualties of 12 per cent. This experience agreed with that of other voluntary hospitals. The ordinary expenditure had been a record, £9606; and the ordinary income had also been a record, having amounted to £7528, leaving a deficit of £2078. Legacies had been received to the amount of £1200, reducing the deficiency to £877. The hospital had been approved under the National Insurance Act for the reception of suitable cases of tuberculosis, for which the Local Insurance Committee were empowered to pay. Satisfaction was expressed at the formation of a pathological department, which would enable the hospital to keep abreast with advances in medical science, and extend its work in the direction of research.

IMPERIAL HEALTH CONFERENCE.—Several questions of interest to the medical profession will be considered at the Victoria League Imperial Health Conference and Exhibition to be held at the Imperial Institute in May next. A special section will be devoted to the Care of Child Life, and amongst those who have promised papers are Dr. Charles A. Hodgetts, medical adviser to the Commission of Conservation in Canada; Dr John McCullough, chief medical officer of health, Toronto; Dr. Isabel Ormiston, medical officer to the Education Department of Tasmania; and Dr. Truby King, New Zealand, on the Hygiene of Childhood. In connexion with the conference an exhibition dealing with the Care of Child Life, and also showing the influence that town planning may have upon the health of the future citizen, is being organised. In this there will be a collection of models, charts, diagrams, and statistics.

Mr. T. Nicolson, of the Co-partnerhip Tenants Housing Council, 6, Bloomsbury-square, London, W.C., is organising the exhibition.

A CENTENARIAN.—Mrs. Charlotte Webb, of Bilson, Cinderford, died on Feb. 22nd. She celebrated the 103rd anniversary of her birthday on Feb. 17th.

THE annual dinner of the British Oto-Laryngological Society will take place on the evening of Wednesday next, March 18th, at the Trocadéro Restaurant, Piccadilly-circus, W., at 7.30 o'clock. Mr. Charles J. Heath will be in the chair.

ST. GEORGE'S HOSPITAL: THE HUNTERIAN SOCIETY.—The annual dinner of the St. George's Hospital Hunterian Society will be held to-day, Friday, March 13th, at the Waldorf Hotel at 7 for 7.30 P.M. The chair will be taken by Mr. W. Fedde Fedden, F.R.C.S., and Mr. A. William West will be the guest of the St. George's Hospital Club on the occasion of his retirement from the post of treasurer to the hospital. The dinner will be followed by a smoking concert, presided over by Dr. Charles Slater, president of the club. It is hoped that many of St. George's men who have not already intimated their intention of being present will at once communicate with the honorary secretaries of the Hunterian Society, St. George's Hospital.

QUEEN VICTORIA JUBILEE CONVALESCENT HOME, DURDHAM DOWNS.—The annual meeting of the friends of Bristol's Convalescent Home was held on Feb. 26th, under the presidency of the Lord Mayor. The medical report stated that during 1913 the patients admitted numbered 1983; 922 of these were female and 1061 male. From the Royal Infirmary came 660 patients, from the General Hospital 655, the Eye Hospital 24, the Dispensary 59, and the Clifton Dispensary 16. Free patients were 398 and paying patients 171. The daily average number of cases was 78½, the average stay being 14¼ days. The financial statement showed the income was £2943 and the expenditure £2925.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Administration of the Insurance Act.

THE topic of the debate which arose on the Vote on Account on Thursday, March 5th, was the administration of the National Insurance Act. For the most part the discussion related to the controversial subject of the solvency or insolvency of Approved Societies. There were, however, references to medical matters in the debate, and to these the following report is entirely confined.

Mr. WORTHINGTON EVANS, in moving as an amendment the reduction of the Vote by £100, criticised the action of the Government in declining to have a return prepared so as to show how many insured persons had not selected a medical man on the panel. It was impossible until this information was furnished to say whether all the insured people did in practice get proper medical attention, and, if not, how many did not get it, and what could be done to improve the administration. Honorary Members knew that the London Insurance Committee had published the fact that something like 400,000 insured persons had not selected a doctor. He believed that that was something like 25 per cent. of the whole. Of course, if 25 per cent. of all insured people in the country had not selected a doctor it would be a very large figure, but the conditions of London were peculiar, and consequently the percentage in London was likely to be very much higher than the percentage throughout the country. He did not believe, however, that it was any exaggeration to say, taking the figures throughout the country, that there was something between 5 and 10 per cent. at least of insured people who had not selected a doctor. That meant that there were something like 1,000,000 people who had not selected a doctor, although they were charged by a deduction from their wages for the payment of a doctor. In other words, they were getting no medical benefit whatever. The sum of money which resulted from people not selecting a doctor was now in the hands of the Insurance Committees. In London there was a large sum. Counsel's opinion had been taken with a view to ascertaining what the committee was entitled to do with the money. The doctors claimed it, but the Insurance Committee was advised by Mr. Danckwerts that it could not be divided amongst the panel doctors, and that there was nothing in the Regulations to justify that. Consequently the committee retained it in hand for the present. Mr. Masterman was interviewed by a deputation of Bethnal Green doctors, who asked if those unallotted funds in the hands of the Insurance Committees would be paid over to the panel doctors. He was reported to have said, "Yes, even if counsel's opinion should once more prove unfavourable, the doctors are to get the money." The deputation, it was said, had gone away pleased. He submitted that it was of public utility to know which of the insured were being charged without getting benefit. It was of public utility to know how £300,000 or £400,000 which was contributed by these insured people was to be used. The doctors might be entitled to it. He did not know whether they were or not. If they were not, there were many good objects for which it could be used—medical referees, nursing, and various other benefits which could be given to insured persons.

Mr. GLYN-JONES, speaking as chairman of the Middlesex Insurance Committee, said that the movement in residence of large numbers of insured persons stood in the way of compiling a return showing how many had actually selected a medical man on the panel. He believed that he was right in saying that in the county of Middlesex the Insurance Committee had not assigned more than 20 insured persons to doctors. This was what had happened. The whole of the doctors, numbering something like 550, were collectively responsible to treat the whole of the insured population of Middlesex, and his committee had deliberately avoided assigning healthy insured persons to a doctor, because they had the assurance, which he was bound to say had been carried out, that the doctors collectively were responsible and would provide treatment for the whole of the insured population of the county. They had had under a score of cases where persons had been ill and had neglected—it was their own fault—to select a doctor. That had led to an hour or two of difficulty, but a doctor had been communicated with and these people had been assigned with the doctor's consent to a doctor in the vicinity. If it was a fact that every insured person in the county who had been ill had had a doctor, what nonsense it was to say that because certain people were not on a doctor's list they had not had the medical benefit for which they paid. It might as well be said that people on a doctor's list who had been fortunate enough not to need his services had not had medical benefit. He supposed that what had happened in Middlesex was happening throughout the whole country, and indeed under the new Regulations it was now the normal course with the doctors on the panel to become collectively responsible to treat every insured person, so that it really did not matter whether they were on the doctors' lists or not. They were guaranteed medical benefit throughout the course of the year. As to the question of the unallotted money, so far as Middlesex was concerned this difficulty did not arise. There never was any balance or residue. The committee there had made a contract with the medical men that the capitation fee was to be paid on the basis of the average life of the whole population, and it would have been a gross breach of faith if the committee had attempted to take away the money for the healthy lives who did not need a doctor.

Mr. GODFREY LOCKER-LAMPSON dealt at length with the payments to panel chemists for the most part in the Manchester district. So far as he could see there would be an average loss of about £100 a head to the Manchester chemists for the year 1913. The Government had no right to tempt these chemists on to the panel and then withhold from them the money which was due to them. There was also a very serious shortage in the funds under the Insurance Act available to provide accommodation for tuberculous insured persons. This was apparent in Stirling. In the last minutes of the Glasgow Insurance Committee it was stated that 27 persons were awaiting admission to sanatoriums and no less than 208 applications for sanatorium benefit were awaiting consideration by the committee. In the report of the West Ham Committee it was stated that out of 95 tuberculous insured persons receiving domiciliary treatment at the end of 1913 no less than 37 were sleeping in the same rooms as other persons merely for want of proper accommodation. He did submit that things like that constituted a scandal.

Mr. LLOYD GEORGE, in the course of his speech, said that the allowance made for drugs was 2*s*. per person. In the old Friendly Society days 4*s*. per member covered drugs and everything. Now there was a system by which the doctors got 7*s*. and 2*s*. were given for drugs. That fact had to be kept in mind. The Government had never undertaken to give a blank cheque to the doctors to issue as many prescriptions for as expensive drugs as they liked or to bankrupt the drug fund. The Government regarded the payment as perfectly adequate. If 6*d*. was considered satisfactory by the Friendly Societies, surely 2*s*. now afforded a very considerable margin. The Government proposed to do their best to keep within that margin. In certain districts the doctors had been prescribing very freely. More especially was that the case in the first few months. He was not going to make any

comment on how that occurred. It had been especially the case where the doctors had chosen the method of payment by attendance. That also was rather significant. Matters were being scrutinised by the Pharmaceutical Society. He did not know that they were bound to pay bills of this kind in excess of the very liberal and generous allowance made. They desired to know the reason why these extravagant bills had been sent in—extravagant he meant on the face of them—for he did not want to make a general charge. They had got to examine these accounts very carefully. They had to see whether the doctors prescribed fairly and reasonably or whether they prescribed in order, in some cases, to get rid of their patients—whether they prescribed drugs and sent to the chemists unnecessarily. It would be folly on the part of the Government not to examine these things. Meanwhile, all the chemists concerned had again gone on the panel, which showed that they, at any rate, were perfectly satisfied to go on on the old terms whilst these cases were being examined. He now came to the question of sanatoriums. Nobody ever thought that in the course of 18 months after the Act came into operation a perfect system of sanatoriums and dispensaries would be ready. As to sanatoriums it was very difficult to move the municipalities. The Government only promised money to localities which were prepared to meet them. The Government had provided £1,600,000. If that had not been all spent it was very largely because time had been needed to bring proposals before the corporations and because there were some slack municipalities as well as some active ones. Just look at what had happened in the meantime. Let them consider the number of people who had been dealt with. There were between 30,000 and 40,000 people who were receiving consumptive treatment of one kind or another. What did that mean? Some of it was domiciliary treatment, which meant that the patients had doctors, and many of those people did not have doctors before at all. They had received very excellent food as well as medicine of a strengthening character to fortify their system to fight the tuberculosis. What about institutional treatment? He agreed that in two, three, or four years there would be more room and more beds, whilst the institutions would improve, but everything could not be done in 18 months. As it was, there were 24,000 persons treated in institutions. Some of these were not good, because they had to be improvised for the time being. But even the least good were infinitely better than the homes in which many of these people had to be treated, or rather to be neglected, in the past. Dealing with the subject of excessive sickness the right honourable gentleman said that it was acknowledged that there was more malingering amongst women's than amongst men's societies. On the other hand, excessive sickness had to be taken into account. If any system of insurance was going to be a success the affairs must be managed in a business-like way. There was a margin no doubt for improvement in the doctoring—a considerable margin, and that was a question which would have to be considered. There were some doctors who were too slack and gave certificates much too readily. Later in his speech the right honourable gentleman said that millions of people were brought into insurance who could never afford a doctor before. Here for the first time these people were on the doctor's list. They could go to the doctor at any time, ask his advice, have drugs prescribed, and it was quite a novel experience for these poor people and for the doctor to deal with them. It was too much to ask the doctors that they should be tested by the first year's experience of conditions to which they had never been accustomed.

Mr. H. FORSTER remarked that honourable Members had some reason to be surprised that only a sum of £88,000 out of £1,500,000 should have been provided for the erection of sanatoriums. More expedition might have been shown by the Government. Domiciliary treatment had fallen lamentably short of what ought to have been provided.

The amendment was afterwards negatived by 242 votes to 174, and the vote was agreed to.

Vaccination Acts.

A Bill to repeal the Vaccination Acts has been presented by Mr. BLACK in the House of Commons. It has been read a first time.

HOUSE OF COMMONS.

WEDNESDAY, MARCH 4TH.

Lunatics as Private Patients.

Sir JOHN JARDINE asked the Home Secretary to state what precautions existed to protect the liberty of the subject where a lunatic who had not been personally seen by the judicial authority had been received as a private patient by the manager of an institution for lunatics or by a person taking charge of him as a single patient; what means the Lunacy Commissioners had at their disposal for enforcing the requirement of the Lunacy Act, 1890, Section 8, Subsection (2), that such manager or person should within 24 hours after reception give the patient a notice in writing of his right to be taken before or visited by a judicial authority; whether such manager or person was bound forthwith to inform the Lunacy Commissioners or the judicial authority that he had discharged this duty of giving notice to the patient or to make any other record of his having given the notice and of the answer of the patient; and in case of omission to comply with the law requiring notice within 24 hours whether the Lunacy Commissioners exercised any powers of discipline or on discovery originated any prosecutions for the misdemeanour.—Mr. MCKENNA replied: When a patient has not been seen by the judicial authority who made the reception order, in addition to the precautions applicable to all private patients, he has the right to be seen by another judicial authority, and to receive notice of such right within 24 hours of admission, unless the medical officer or the medical attendant signs and sends to the Commissioners a certificate that the right would be prejudicial to the patient. The only means the Commissioners have of enforcing the duty of giving this notice is a prosecution for misdemeanour in case of default. There is no obligation to inform either the Commissioners or the judicial authority that the notice has been given to the patient, but if the patient desires to be seen by a judicial authority a notice to this effect must be sent to the judicial authority of such desire. The Commissioners on becoming aware that the required notice had not been sent would call the attention of the person in default to the requirements of Section 8 and warn him of the risk he incurred of a prosecution. A prosecution would not be instituted for mere inadvertence, but only for wilful disobedience to the law.

Visitation of Broadmoor Criminal Lunatic Prison.

Mr. TOUCHE asked the Home Secretary what was the object of the visit of the Lunacy Commissioners to the Broadmoor Criminal Lunatic Prison; and whether they went to grant interviews and consider representations made by prisoners in favour of release.—Mr. MCKENNA answered: The Commissioners in Lunacy visit Broadmoor in pursuance of Section 14 of the Criminal Lunatic Asylums Act, 1860, to inquire into the mental and bodily condition of patients confined there, and make such other inquiries as they may think proper. They give the patients full opportunities of laying before them any matter to which they wish to draw attention and receive and inquire into any complaints made by the inmates.

The Letters of Inmates at Broadmoor.

Mr. TOUCHE asked the Home Secretary whether any record was kept of the letters written to the prison authorities by prisoners in the Broadmoor criminal lunatic prison; and if these letters were read by the governor.—Mr. MCKENNA answered: Broadmoor is not a prison and is not under the prison authorities. A record is kept of every letter received or dispatched by a patient. All those dispatched are read by some member of the medical staff, but not necessarily by the superintendent. There were nearly 24,000 last year.

Death of an Insured Person.

Mr. CASSEL asked the Secretary to the Treasury whether his attention had been called to the opinion expressed by a coroner's jury at the inquest on George John Chandler, deceased, an insured person suffering from tuberculosis, that there had been neglect on the part of the insurance officials, and that more care should be taken on all future occasions; and whether the Government proposed to take any steps in the matter.—Mr. WEDGWOOD BENN answered: My right honourable friend's attention had already been called to the inquest referred to, and he has caused the fullest possible inquiries to be made. The deceased applied for sanatorium benefit on Jan. 12th, 1914. He was examined on Jan. 13th, and on the same day he and the doctor in attendance were officially informed that domiciliary treatment had been granted, the latter being invited to forward any requisition for an allowance of special nourishment which in his opinion would be beneficial to the patient. The domiciliary form of treatment was recommended on the advice of the Insurance Committee's medical adviser, who reported that the patient's condition would not admit of his being removed to a sanatorium. Had the case been suitable for treatment in a sanatorium the patient would have been removed to one within three days, as the Committee had at the time seven beds available. No trace whatever can be found in the Insurance Committee's offices of any application for an allowance of special nourishment, and the facts elicited by my right honourable friend's inquiries suggest that it is more than doubtful whether any such application was in fact made. The relatives of the deceased state that he received all the nourishment that was necessary, and that every possible attention was shown by the doctor in charge of the case, who had prescribed all suitable tonics and medicines, and had in the interval between the recommendation on Jan. 13th, and the death of the deceased on Feb. 25th, paid over 25 visits to him.

Elementary Education (Defective and Epileptic Children) Bill.

Mr. J. A. PEASE, in moving the second reading of the Elementary Education (Defective and Epileptic Children)

Bill, said that the disease from which epileptics suffered was intermittent and very difficult to define, and the best method of treating it had not yet been really determined by medical men. It might be said, therefore, to be in an experimental stage. The Board of Education did not propose to make the Bill compulsory in regard to epileptic children. What he did propose was to make the present Defective and Epilepsy Act compulsory in regard to suitable special schools for the defectives. There were now about 12,000 children in special schools built by the authorities for defectives. The Board of Education believed that there were in addition about 12,000 more children of this kind who were still at large and unprovided for who might become wastrels and useless citizens, whereas the greater number in the event of their being sent to special schools would undoubtedly become useful citizens. At least, they would become wage-earners, and to a very large extent self-supporting. The Bill was really a corollary to the Mental Deficiency Act which was passed last session, and would come into operation on April 1st. It was with a view to enable the work of the Mental Deficiency Act to be properly carried out that the Bill was essential. The cost to the Treasury of the special schools was about £45,000, and ultimately it would be increased to a possible figure of £200,000.

The provisions of the Bill were criticised by Sir F. BANBURY, Lord ROBERT CECIL, and others, but the second reading was carried by 341 votes to 35.

THURSDAY, MARCH 5TH.

Exemptions from Vaccination in Scotland.

Captain GILMOUR asked the Secretary for Scotland to state the number of exemptions from vaccination in each of the three years before a statutory declaration took the place of an appearance before a magistrate for a certificate; and the number of exemptions in each year subsequently.—Mr. MCKINNON WOOD wrote in reply: Prior to the passing of the Vaccination (Scotland) Act, 1907, which authorised the making in Scotland of statutory declarations of conscientious objection to vaccination, no provision existed, as in England, for the granting by magistrates of exemptions from vaccination. The numbers of such statutory declarations made in respect of births registered in subsequent years were as follows:—

In respect of births registered in—	Statutory declarations.
1907	7,258
1908	15,846
1909	22,746
1910	26,954
1911*	29,582
1912*	32,863

* These figures have not yet been published and are subject to revision.

Housing Conditions in Dublin.

Sir ARTHUR GRIFFITH-BOSCAWEN asked the Chief Secretary to the Lord Lieutenant of Ireland whether the attention of the Irish Government had been called to the recently issued Report of the Departmental Committee on the Housing Conditions of the Working Classes in Dublin, which report revealed the existence of a serious state of affairs in that city; whether his attention had been called to the fact that no less than 229 persons per 10,000 lived in one-room tenements in Dublin, whereas the corresponding figures for Liverpool were 23 and for Belfast 3 per 10,000; that several members of the corporation owned houses described as being unfit for human habitation; and that the committee recommended State-aid towards housing operations in Irish towns; and what steps the Government proposed to take to carry out the recommendations of the committee.—Mr. BIRRELL replied: The answer to the first two paragraphs of the question is in the affirmative, except the figure 10,000 should read 1000. There are three members of the Dublin corporation who own houses which are described by the chief superintendent of the sanitary staff of the corporation as being unfit for human habitation. The question of municipal housing is receiving the consideration of the Government.

Sir ARTHUR GRIFFITH-BOSCAWEN: When will the right honourable gentleman be able to make a statement as to what steps the Government propose to take? Also can he explain why the conditions of housing in Dublin are so much worse than they are in Belfast?

Mr. J. SAMUEL: Will the Government take into consideration the desirability of bringing in an amending Bill to alter the Act of 1890 so as to ease the cost to the corporation of Dublin and other municipal bodies?

Mr. BIRRELL: That is a very large question. Some such relief must, in my opinion, if it is worth anything, be given to public bodies and ratepayers before they can be expected to take upon themselves the burden of this very necessary work. In reply to the honourable Member for Dudley (Sir Arthur Griffith-Boscawen), I yield to no one in appreciation of the importance of the question, but obviously I am not in a position to say when the Government will be able to make really definite and business-like proposals in this matter. They cannot be delayed indefinitely.

Sanatorium Benefit in Dublin.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the East, as representing the Insurance Commission, whether his attention had been called to a resolution adopted by the Dublin Insurance Committee at its meeting on Feb. 19th to the effect that it was unable to meet one of its obligations—namely, the supplying of sanatorium benefit, in respect of which there was at present a total waiting list of 83 persons—and what the Government proposed to do so that these 83 consumptive insured persons in Dublin might get the benefit for which they had paid.—Mr. WEDGWOOD BENN said, in reply: My right honourable friend's attention has not previously been called to the resolution referred to, but he is informed that it is not the case that persons awaiting admission to residential institutions are without treatment in the interim.

Payment of Canterbury Panel Chemists.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commission, whether the Insurance Commissioners had received a letter from the Canterbury Insurance Committee, in terms of a resolution passed by the finance sub-committee, asking them to grant an extra sum of money so that the local panel chemists might have their accounts paid in full; and, if so, what action was to be taken in the matter.—Mr. WEDGWOOD BENN said in reply: The answer is in the negative.

MONDAY, MARCH 9TH.

Medical Cards for Insured Persons in Blackburn.

Mr. ASTOR asked the Secretary to the Treasury whether the collectors of the panel doctors were employed by the Blackburn Insurance Committee to deliver medical tickets to insured persons; how many collectors were so employed; what remuneration was paid to them for this service; how many doctors' collectors had refused to undertake this work; and what arrangements were made to deliver the cards in these cases.—Mr. WEDGWOOD BENN replied: My right honourable friend is informed that in a large number of cases the collectors of the panel doctors were employed by the Blackburn Insurance Committee to deliver medical cards to insured persons, but he is unable to state how many were so employed or how many declined to undertake the work. The remuneration offered was 2*s.* 6*d.* per 100 cards. In those cases in which it was not possible to secure the delivery of the cards by the doctors' collectors the cards were sent by post or delivered by other persons engaged for the purpose.

Insured Persons Refused by Panel Practitioners.

Mr. RUPERT GWYNNE asked the Secretary to the Treasury what arrangements had been made by which an insured person who had been refused medical attendance by three panel doctors could obtain medical benefit without further delay.—Mr. WEDGWOOD BENN replied: Insurance Committees have always had power under their agreements with doctors to assign to a doctor any insured person applying to them for the purpose who experiences difficulty in getting accepted, and this power has always been exercised when necessary. The recent constitution of Panel Committees under the 1913 Act, however, has made it possible to facilitate the procedure of assignment which is now being revised by Insurance Committees with this object.

Free Examination of Sputum.

Mr. ASTOR asked the President of the Local Government Board how many local authorities had provided for the free examination of sputum, and how many had not yet made such provision.—Mr. A. LEWIS (on behalf of Mr. HERBERT SAMUEL) answered: The Department have no exact information on the subject. Speaking generally, the schemes of treatment which are now being developed by the councils of counties and county boroughs include arrangements for the examination of the sputum of patients attending institutions provided by these councils.

TUESDAY, MARCH 10TH.

Edinburgh Milk-supply.

Mr. MCKINNON WOOD informed Mr. JAMES HOGGE that it was stated to him that the medical officer of health for Edinburgh stated that investigations carried on for several years showed that only in exceptional cases was the presence of tubercle detected in samples of milk taken in the city. He saw no reason to doubt that efficient measures of inspection and examination were in operation, and that as regarded its milk-supply Edinburgh would compare favourably with other large towns. It occupied a good position when its statistics of mortality from all forms of tuberculosis were compared with the statistics for other large towns in Scotland.

Departmental Committee on Excessive Sickness.

Mr. GODFREY LOCKER-LAMPSON asked the Secretary to the Treasury whether the evidence taken by the Departmental Committee on Excessive Sickness under the National Insurance Acts, which was already in type and extended to some thousands of questions, could be published for the information of Approved Societies and others who were interested in the subject and who might wish to offer rebutting evidence.—Mr. WEDGWOOD BENN answered: The publication of the evidence so far given before the committee would create a misleading impression. I do not understand what the honourable Member intends to suggest as to the offering of rebutting evidence by Approved Societies and others. The committee is not inquiring into allegations in respect of specific societies, but into the general question affecting the administration of sickness benefit.

Funds of the London Insurance Committee.

Sir HENRY CRAIK asked the Secretary to the Treasury whether the Insurance Commissioners were prepared to require the London Insurance Committee to distribute the money now in their hands and available for medical services, so as to fulfil the understanding upon which the doctors joined the panel.—Mr. WEDGWOOD BENN said in reply: The distribution of the funds available to the London Insurance Committee among the doctors on their panel in accordance with the Regulations and the doctors' agreements is, in the first instance at any rate, a matter for the committee themselves, with whom these agreements have been made, and, as I have already stated, this distribution is engaging their attention.

The Drug Fund in Bolton.

Mr. GODFREY LOCKER-LAMPSON asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commission, whether his attention had been drawn to the issue of a circular to the panel doctors in Bolton advising them that on account of the drug fund being overspent they should not prescribe extract of malt and oil, petroleum emulsion, &c., except to tuberculous patients; whether the Government proposed to take any steps to see that the rights of insured persons were not thereby imperilled and their medical needs ignored; and whether they agreed with restrictions of this kind being placed on doctors with regard to the medicine that panel patients could have.—Mr. WEDGWOOD BENN answered: The honourable Member is misinformed. The circular contains no allusion to the condition of the drug fund and has no reference to financial considerations. It merely expresses the general views of the committee arrived at in the course of administration as to the interpretation to be placed, in their opinion, upon the provisions of the Act regarding the supply of medicines in connexion with the medical benefit. The rights of insured persons cannot, of course, be restricted by any such general announcement as that refered to.

WEDNESDAY, MARCH 11TH.

Expenses of Sanatorium Benefit in London.

Mr. F. HALL (Dulwich) asked the Secretary to the Treasury whether the London Insurance Committee had made any requests for increased grants to enable them to meet expenditure arising out of the working of the National Insurance Act; if so, what reply had been made to such request; and if any suggestion had been made to the London County Council in the matter, and the nature thereof.—Mr. WEDGWOOD BENN replied: I understand that the London Insurance Committee communicated with the Treasury early last year as to the provision of further funds to defray the expenses of sanatorium benefit, and they were informed in reply of the conditions under which further funds are available for the treatment of tuberculosis. I have no information as regards the last part of the question.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.

The Practice of Surgery. By Russell Howard, M.S. Lond., F.R.C.S. Eng., Surgeon to the Poplar Hospital; Assistant Surgeon to the London Hospital; Joint Lecturer on Surgery and Teacher of Operative Surgery at the London Hospital Medical College. With 8 coloured plates and 523 illustrations in the text. Price 21s. net.

BERGMANN, J. B., Wiesbaden.

Die Vitamine, ihre Bedeutung für die Physiologie und Pathologie, mit besonderer Berücksichtigung der Avitaminosen. (Beri-beri, Skorbut, Pellagra, Rachitis.) Anhang: Die Wachstumssubstanz und das Krebsproblem. Von Casimir Funk, Cancer Hospital Research Institute, London. Price M.8.60.

BUTTERWORTH AND COMPANY, London.

Bowles *v.* The Bank of England. With an introduction by T. Gibson Bowles, Esq.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

British Red Cross Society Hygiene and Sanitation Manual. No. 4. By Lieutenant-Colonel S. Guise Moores, R.A.M.C. With coloured plates and black-and-white illustrations. Price 1s. net.

DEUTICKE, FRANZ, Leipzig und Wien.

Das chronische partielle Herzaneurysma, Anatomie, Klinik, Diagnose. Von Prof. Dr. Maximilian Sternberg (Wien). Price M.3.

GOVERNMENT PRINTING DEPARTMENT, Calcutta.

A Description of the Imperial Bacteriological Laboratory, Muktesar: Its Work and Products. By Major J. D. E. Holmes, M.A., D.Sc., M.R.C.V.S., Imperial Bacteriologist. Price 9d.

Scientific Memoirs, by Officers of the Medical and Sanitary Departments of the Government of India. No. 4: The Comparative Anatomy of the Proboscis in Blood-Sucking Muscidae. By Captain F. W. Cragg, M.D., I.M.S. Price 1s. 9d.

HEINEMANN, WILLIAM (REBMAN, LIMITED), London.

Diagnosis of the Malignant Tumours of the Abdominal Viscera. By Professor Rudolph Schmidt, Professor of Medicine in the University of Innsbruck. Authorised English version by Joseph Burke, Sc.D., M.D., Attending Surgeon, Buffalo Hospital of the Sisters of Charity, Consulting Surgeon, Emergency Hospital, Buffalo, N.Y. Price 17s. 6d. net.

HIRSCHWALD, AUGUST, Berlin.

Die Willensfreiheit. Von Berthold v. Kern. Price M.2.

Grundsätze für den Bau von Krankenhäusern (Bibliothek von Coler-von-Schjerning. Band XX. 2 Auflage). Von Obergeneralarzt Dr. Thel. Zweite vermehrte Auflage. Price M.6.

KABITZSCH, CURT, Würzburg.

Kurze praktische Anleitung zur Erkennung aller Formen des Kopfschmerzes. Von Oberstabsarzt Dr. Lobedank (Hagenau i.E.). Price M.2.

KEGAN PAUL, TRENCH, TRUBNER, AND COMPANY, London. E. P. DUTTON AND COMPANY, New York.

The Reform of the Calendar. By Alexander Philip, M.A., LL.B., F.R.S. Edin. Price 4s. 6d.

LAURIE, T. WERNER, LIMITED, London.

How to Become Efficient. By T. Sharper Knowlson. Price 1s. 6d. net.

LEHMANN, J. F., München.

Vorlesungen über Magen- und Darmkrankheiten. Heft 6. Die chronischen katarrhalischentzündlichen Erkrankungen des Darmes. Von Hofrat Dr. Friedrich Crämer. Price M. 4.50.

Die Krebsbehandlung. Von Dr. Christoph Müller. Price M.1.80.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

A Manual of X Ray Technic. By Arthur C. Christie, Captain, Medical Corps, U.S. Army, Instructor in Radiology and Operative Surgery, Army Medical School, Washington D.C., with 42 illustrations. Price 6s. net.

Meningococcus Meningitis. By Henry Heiman, M.D., Professor of Pediatrics, New York Polyclinic School and Hospital; and Samuel Feldstein, M.D., Lecturer on Pediatrics, New York Policlinic School and Hospital. With an introduction by Henry Koplik, M.D., Chief of Service, Mount Sinai Hospital, New York. With 4 plates, 31 figures, 2 in colour, and 4 charts. Price 12s. 6d. net.

MACMILLAN COMPANY, THE, New York.

Foods and Household Management. By Helen Kinne, Professor of Household Arts Education; and Anna M. Cooley, B.S., Assistant Professor of Household Arts Education in the Teachers College, Columbia University. Price 5s. net.

MARCUS, A., AND WEBER, E., Bonn.

Leitfaden der Säuglingskrankheiten für Studierende und Aerzte. Von Privatdozent Dr. Walter Birk (Kiel). Price M.4.80.

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Die Röntgendiagnostik der Magenkrankheiten. Von Privatdozent Dr. M. Faulhaber (Würzburg). Price M.3.

MARLBOROUGH, E., AND COMPANY, London.

German Self Taught. Enlarged edition, revised by W. E. Weber, M.A. Price 1s.

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La Lèpre à Travers les Siècles et les Contrées. Par le Dr. Al Zambaco Pacha (de Byzance). Price Fr.12.

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A Course of Practical Work in the Chemistry of the Garden for Teachers and Students of Horticulture, Gardening, and Rural Science. By D. R. Edwardes-Ker, B.A. Oxon., B.Sc. Lond. Price 1s. 6d. net.

MURRAY PRINTING COMPANY, LIMITED, Toronto. LEWIS, H. K. London.

A Code System for the Hospital Pathological Laboratory. Part I. Autopsy Work. By O. C. Gruner, M.D. Lond. Price 1s. 6d.

A Guide to the Description of Microscopic Sections of Pathological Tissues (Part II. of a Code System for the Hospital Pathological Laboratory). By O. C. Gruner, M.D. Lond. Price 1s. 6d.

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Taschenbuch für Frauenheilkunde und Geburtshilfe. Von L. Jankau. IV. Auflage. Price M.7.

RIDER, WILLIAM, AND SON, LIMITED, London.
Popular Phrenology. By J. Millott Severn, F.B.P.S. Price 1s. net.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.
List of the Fellows, Members, and Extra-Licentiates of the Royal College of Physicians of London.

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Abbau und Entzundung des Herzklappengewebes. Von Professor Dr. Paul Grawitz, Greifswald. Price M.2.

SHAW AND SONS, London.
Lunacy Practice: A Practical Guide to the Certification and Detention of Persons of Unsound Mind. By William H. Gattie, Barrister-at-Law. Price 2s. 6d. net.

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SOUTH AFRICAN RED CROSS SOCIETY, Johannesburg.
First Aid in Mining (Metalliferous Mines). By Louis G. Irvine, M.A., M.D., B.Sc. Edin.

SPRINGER, JULIUS, Berlin.
Jahrbuch für Orthopädische Chirurgie. Bearbeitet von Dr. Paul Glaessner (Berlin). Vierter Band, 1912. Price M.6, geb. M. 6.80.
Konstitution und Vererbung in ihren Beziehungen zur Pathologie (Enzyklopädie der klinischen Medizin). Von Prof. Dr. Friedrich Martius (Rostock). Price M.12; geb., M.14.50.

STEINKOPFF, THEODOR, Dresden.
Die Physikalische Chemie der Proteine. Von Dr. T. Brailsford Robertson, Professor an der Universität in Berkeley (Kalifornien). Autorisierte Übersetzung von F. A. Wyncken, M.L. (Berkeley). Price M.14.

THIEME, GEORG, Leipzig.
Lehrbuch der Organotherapie Herausgegeben von Wagner Jauregg (Wien) und Gustav Bayer (Innsbruck). Mit Berücksichtigung ihrer anatomischen und physiologischen Grundlagen. Price M. 13; geb. M.14.

THRIFT PUBLISHING COMPANY, New York.
The Supposed Death-Rates of Abstainers and Non-Abstainers and their Lack of Scientific Value. By Edward Bunnell Phelps, M.A., F.S.S.

UNIVERSITY PRESS, Cambridge.
Forgiveness and Suffering. A Study of Christian Belief. By Douglas White, M.D., Trinity College, Cambridge. Price 3s. net.

URBAN UND SCHWARZENBERG, Berlin und Wien.
Spezielle Pathologie und Therapie innerer Krankheiten in 10 Bänden herausgegeben von Friedrich Kraus und Theodor Brugsch in Berlin Lieferung 17–20 (II. Band, 2 Hälfte, Seite 261–492 mit 2 schwarzen und 7 farbigen Tafeln). Price each Lieferung M.2.
Lehrbuch der Chirurgischen Operationen an der Hand klinischer Beobachtungen für Aerzte und Studierende. Von Prof. Dr. Fedor Krause (Berlin) in Gemeinschaft mit Dr. Emil Heymann (Berlin). II. Abteilung: Chirurgie des Kopfes (Schluss). Price M.15.

VIEWEG, FRIEDR., UND SOHN, Braunschweig.
Tierisch Immunität. Von Werner Rosenthal (Die Wissenschaft Einzeldarstellungen aus der Naturwissenschaft und der Technik. Band LIII. Price geb. M.7.20.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol.
Importance of Maritime Hospitals in the Treatment of Surgical Tuberculosis. By Doctor Jaques Calvé, Assistant Surgeon at the Maritime Hospital, Berck-sur-Mer. Authorised translation by Charlotte E. Ryan. Price 1s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BRISCOE, WILLIAM THOMAS, M.D., M.Ch. Dub., has been appointed Medical Officer for the Pewsham District by the Chippenham (Wilts) Board of Guardians.

CARLILL, HILDRED B., M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the Seamen's Hospital, Greenwich.

CONSTABLE, EVELYN A., M.B., B.S Durh., has been appointed to the Medical Staff of the C.M.S. Hospital, Isfahan, Persia.

DOWN, ELGAR, F.R.C.S. Edin., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Physician to the Royal Albert Hospital, Devonport.

HIGSON, JOHN RUSSELL, M.B., C.M. Edin., D.P.H., has been appointed Clinical Assistant to the West End Hospital for Diseases of the Nervous System.

HILL, W. B., M.D. Vict., has been appointed Medical Officer of Health for the Combined Districts of Selby, Riccall, Tadcaster, and Goole Rural Councils.

LANDMAN, JULIAN, M.D., Ch.B. Vict., has been appointed Clinical Assistant to the West End Hospital for Diseases of the Nervous System.

LAWSON, ARNOLD, F.R.C.S. Eng., M.R.C.P. Lond., M.D. Brux., has been appointed Ophthalmic Surgeon to the Middlesex Hospital.

MENCE, WILLIAM CHARLES, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Borough of Chard.

POWNE, L., M.R.C.S., L.S.A. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Crediton District of the county of Devon.

PUGH, JOHN W., M.D. Lond., M.R.C.S., has been appointed Clinical Assistant to the West End Hospital for Diseases of the Nervous System.

ROBERTS, G. A., F.R.C.S. Eng., has been appointed Honorary Surgeon in Ordinary to the Royal Hampshire County Hospital, Winchester.

SHORT, A. RENDLE, M.D. Lond., has been appointed a Lecturer in Physiology in the University of Bristol.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BARROW-IN-FURNESS, NORTH LONSDALE HOSPITAL.—House Surgeon. Salary £120 per annum, with residence, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BEDFORD COUNTY HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and laundry.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Junior House Surgeon. Salary £100 per annum, with residence, board, &c.

BIRMINGHAM AND MIDLAND HOSPITAL FOR NERVOUS DISEASES, Bath-row, Birmingham.—Physician to Out-patients.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for six months in Electrical Department. Salary at rate of 52 guineas per annum.

BIRMINGHAM, CITY OF.—Female Assistant Medical Officer of Health for Infant Consultation work, &c. Salary £300 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer, unmarried. Salary £220 per annum, with apartments, fire, light, and attendance.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: Resident Assistant Medical Officer. Salary £140 per annum, with apartments, rations, laundry, and attendance. SELLY OAK INFIRMARY: Resident Assistant Medical Officer. Salary £160 per annum.

BOURNEMOUTH, ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House Surgeon for six months, unmarried. Salary £100 per annum and extras, with board, lodging, and washing.

BRADFORD CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board, residence, and laundry.

BRENTFORD UNION INFIRMARY, WORKHOUSE, AND SCHOOLS, Isleworth, W. — Second Assistant Medical Superintendent, unmarried. Salary £150 per annum.

BRIGHTON AND HOVE HOSPITAL FOR WOMEN.—House Surgeon for six months, unmarried. Salary £80 per annum, with apartments, board, attendance, &c.

BRIGHTON, ROYAL SUSSEX COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £120 per annum, with board, residence, and washing. Also Assistant House Surgeon, unmarried. Salary £80 per annum, with apartments, board, and laundry.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Two House Surgeons, House Physician, and Throat, Nose, and Ear House Surgeon, all for six months. Salaries at rate of £100 per annum, with board, apartments, and laundry.

BURLEY-IN-WHARFEDALE, SCALEBOR PARK ASYLUM.—Assistant Medical Officer. Salary £220 per annum, with board, apartments, attendance, &c.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and washing.

CANCER HOSPITAL (FREE), Fulham-road, London, S.W.—House Surgeon for six months. Salary £70 per annum.

CARDIFF, KING EDWARD VII. WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Tuberculosis Physician. Salary £300 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House Physician. Salary £90 per annum, with board, apartments, and laundry.

CHICHESTER, WEST SUSSEX COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer. Salary £200 to £250 per annum, with apartments, board, laundry, and attendance.

DERBY COUNTY ASYLUM, Mickleover, Derby.—Junior Assistant Medical Officer. Salary £200 per annum, with board, lodging, and washing.

DERBY MENTAL HOSPITAL.—Assistant Medical Officer. Salary £200 per annum, with apartments, board, and laundry.

DUBLIN, PEAMOUNT SANATORIUM, Hazelhatch.—Assistant Resident Medical Superintendent. Salary £150 per annum, with residence and light.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

DURHAM COUNTY COUNCIL.—School Medical Inspector. Salary £300 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House Surgeon. Salary £70 per annum, with board, washing, and lodging.

EPSOM, LONDON COUNTY ASYLUM, Horton, Surrey.—Junior Assistant (Sixth) Medical Officer. Salary £200 per annum, with board, apartments, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Clinical Assistants in Out-patient Departments.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of 100 guineas per annum, with board, apartments, and washing.

GLASGOW, ROYAL SAMARITAN HOSPITAL FOR WOMEN.—Resident Medical Officer. Salary £25 per annum. Also vacancy on Outdoor Dispensary Staff.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Surgeon.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician and House Surgeon for six months. Salaries at rate of £40 per annum, with board, lodging, and laundry.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

HALIFAX ROYAL INFIRMARY.—Second House Surgeon and Third House Surgeon, unmarried. Salary £100 and £90 per annum respectively, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with rooms, board, and washing.

HULL ROYAL INFIRMARY.—Casualty House Surgeon for six months. Salary at rate of £80 per annum, with board and lodging.

ILFORD URBAN DISTRICT COUNCIL.—School Dentist. Salary at rate of £200 per annum.

IPSWICH, EAST SUFFOLK HOSPITAL.—House Physician. Salary £80 per annum, with board, apartments, and laundry.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LEICESTER SANATORIUM AND ISOLATION HOSPITAL.—Resident Medical Officer. Salary £250 per annum, with board and residence.

LIVERPOOL WORKHOUSE HOSPITAL, Brownlow Hill.—Resident Assistant Medical Officer. Salary £140 per annum, with apartments, &c.

LONDON LOCK HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £200 per annum, with quarters, attendance, washing, &c.

MANCHESTER, COUNTY ASYLUM, Prestwich.—Assistant Medical Officer. Salary £250 per annum, with board, apartments, attendance, and washing.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—Junior House Surgeon. Salary £100 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients for six months. Salary at rate of £100 per annum, with board and residence.

MANCHESTER ROYAL INFIRMARY, CONVALESCENT HOSPITAL, Cheadle.—Assistant Medical Officer, unmarried, for six months. Salary at rate of £80 per annum, with board and residence.

MERSTHAM, NETHERNE ASYLUM.—Dentists for one day a week. Salary £50 per annum.

MIDDLESEX HOSPITAL, W.—Assistant Ophthalmic Surgeon.

MONTREAL, ROYAL VICTORIA HOSPITAL.—Pathologist.

MUKTESAR, INDIA, IMPERIAL BACTERIOLOGICAL LABORATORY.—Pathologist. Salary £560 per annum.

NATIONAL DENTAL HOSPITAL AND COLLEGE, Great Portland-street, W.—Deputy Anæsthetists.

NEWARK-UPON-TRENT HOSPITAL.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and laundry.

NEWPORT (MON.), ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NORWICH CITY ASYLUM, Hellesdon, near Norwich.—Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, attendance, and laundry.

NOTTS EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Third House Surgeon for six months. Salary £90 per annum, with board, &c.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Pathologist and Registrar. Salary £200 per annum, with lunch. Also House Physician for six months. Salary at rate of £80 per annum, with board, residence, and washing.

ROCHDALE INFIRMARY.—Senior House Surgeon, unmarried. Salary £110 per annum, with board, residence, and laundry.

ROYAL AUSTRALIAN NAVY.—Two Surgeons. Rates of pay on entry £387 16s. 3d. per annum.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell-square, W.C.—Junior Demonstrator of Bacteriology and Pathology. Salary £150 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Twenty-five Appointments.

ST. ALBANS, MIDDLESEX COUNTY ASYLUM, Napsbury.—Junior Assistant Medical Officer. Salary £250 per annum, with board, lodging, washing, and attendance.

ST. GILES INFIRMARY, Brunswick-square, Camberwell, and GORDON-ROAD WORKHOUSE, Peckham.—Second Assistant Medical Officer. Salary £170 per annum, with apartments, board, and washing. Also Third Assistant Medical Officer. Salary £150 per annum, with apartments, board, and washing.

ST. HELENA.—Assistant to Colonial Surgeon. Salary £250 per annum, partly furnished quarters, horse, and forage. FALKLAND ISLANDS: Assistant Colonial Surgeon. Salary £300 per annum, with unfurnished quarters.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Three Clinical Assistants.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board, residence, and laundry.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, Holborn, W.C.—Clinical Assistant in Out-patient Department.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon and Casualty House Surgeon for six months. Salary at rate of £65 per annum each, with board and residence.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, &c.

SEAMAN'S HOSPITAL SOCIETY.—DREADNOUGHT HOSPITAL, Greenwich: Medical Registrar. Salary £100 per annum, with luncheon. Also Two House Physicians and Two House Surgeons for six months. Salary £50 per annum each, with board, residence, and washing. ALBERT DOCK HOSPITAL, Connaught-road, E.: House Surgeon and House Surgeon to Out-patients for six months. Salary £75 per annum each, with board, residence, and washing.

SHEFFIELD, EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—Female House Surgeon for Out-patient Department only. Salary £75 per annum, with board and residence.

SHEFFIELD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

SHEFFIELD UNION HOSPITAL, Firvale.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Surgeon for six months. Salary at rate of £100 per annum, with rooms, board, and washing.

SUNDERLAND ROYAL INFIRMARY.—House Physician. Salary £120 per annum, with board, residence, and laundry.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST ON THE SEPARATE PRINCIPLE.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board, lodging, &c.

WAKEFIELD, CARDIGAN SANATORIUM.—Assistant Medical Officer. Salary £250 per annum, with partial board.

WAKEFIELD GENERAL HOSPITAL.—Second House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard-street, Soho, W.—Resident Medical Officer. Salary £120 per annum, with rooms, attendance, &c.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing.

WEST HAM UNION SICK HOME, Forest-lane, Forest Gate.—Second Assistant Resident Medical Officer. Salary £160 per annum.

WEST RIDING COUNTY COUNCIL.—School Medical Inspector. Salary £325 per annum.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Dentist.

WHITECHAPEL UNION INFIRMARY, Vallance-road, E.—Second Assistant Resident Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary £100 per annum, with board, apartments, and washing.

WOOLWICH INFIRMARY, Plumstead.—Assistant Resident Medical Officer, unmarried. Salary £180 per annum, with apartments, rations, and washing.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £90 per annum, with apartments, board, and laundry.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £125 per annum, with board, rooms, and laundry.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Acts at Hay, in the county of Brecknock; at Old Meldrum, in the county of Aberdeen; at Sutton Bridge, in the county of Lincoln; and at Tredegar, in the county of Monmouth.

THE Home Secretary gives notice of a vacancy for a Medical Referee under the Workmen's Compensation Act, 1906, for Reading, Newbury, Farnham and Aldershot, and Chertsey County Courts. Applications for the post should be addressed to the Private Secretary, Home Office, Whitehall, S.W.

Births, Marriages, and Deaths.

BIRTHS.

FAIRLIE.—On March 10th, at Mecklenburgh-square, W.C., the wife of Wm. M. Fairlie, M.B., of a daughter.

WATSON.—On March 2nd, at Leigh House, Leigh-on-Sea, the wife of W. Douglas Watson, M.R.C.S., L.R.C.P., D.P.H., of a son.

MARRIAGES.

CRAIG—CRESSALL.—On Feb. 14th, at St. Sidwell's, Georgetown, Demerara, George Ernest Craig, M.B. Dub., British Guiana Medical Service, to Ethel Harriet Beatrice, eldest daughter of Mr. and Mrs. Paul Cressall, Georgetown, Demerara.

DEATHS.

COX.—On Feb. 15th, passed away at sea on s.s. "*Themistostis*," James Herbert Cox, M.R.C.S. Eng., L.R.C.P. Lond., of Cape Town, aged 51.

VACHER.—On Feb. 25th, at sea, after a short illness, Francis Vacher, J.P., F.R.C.S., M.R.C.P., of Glenart, Oxton, Birkenhead.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE MILWARD FUND.

THIS fund, whose origin was described in THE LANCET of March 7th, p. 726, is now closed, and a final statement of the fund and a complete list of subscribers has reached us with a request for publication.

The committee of the fund met for the last time on Jan. 29th, when Dr. C. Octavius Parsons and Mr. William Sheen were appointed trustees of the fund, with instructions as regards the £1328 5s. 11d. to invest £1300 in trust securities, whereof the income should go to Mrs. Milward, and to hold the balance of £28 5s. 11d. on her behalf. Also, as regards the annual subscriptions, to collect these and pay them over to Mrs. Milward. To fulfil these instructions and provide for all eventualities a trust deed has been executed.

The investments have been made as follows:—

		£	s.	d.
£250 India 3% Stock	@ 79¼	198	2	6
£250 Barry Railway 3% Debentures... ...	@ 76	190	0	0
£250 Midland Railway 2½% Preference Stock	@ 66¼	166	11	3
£300 Great Northern Railway 4% Preference Stock	@ 105¼	315	15	0
£250 Metropolitan Water Board 3% "A" Stock	@ 85¼	212	16	3
£250 Natal 3% Stock	@ 82¼	205	12	6
		1288	17	6
Cost of stamps and fees		5	11	0
Total		1294	8	6

These investments are estimated to produce £47 10s. annually. The committee of the fund desires to express acknowledgments to all who helped, particularly Mr. C. Courtenay Lord, of Gillingham, Dr. J. F. Walker, of Southend, Dr. James Brownlee, of Middlesbrough, Mr. Russell Coombe, of Exeter, Dr. T. Harrison Butler, of Leamington, Mr. W. H. F. Oxley, of Poplar, Dr. K. C. Mackenzie, of Caerphilly, Dr. D. R. Price, of Ammanford, and Mrs. Le Cronier Lancaster, of Swansea. Also to the honorary secretaries of the various divisions of the British Medical Association where collective subscriptions were made, to the medical press for giving publicity to the fund, and to Mr. C. Massey, stockbroker, of Cardiff, who kindly undertook the investments free of commission. Mrs. Milward has continued to live in the same house since her husband died. She takes in boarders and is just able to pay her way. The eldest boy is at Christ's Hospital as a foundation scholar. Every effort is being made to get the second boy into Epsom College at the next election in June, 1914, and communications regarding this and votes should be sent direct to Mrs. Milward, 5, Glossop-terrace, Cardiff. For the baby it is believed a presentation to Christ's Hospital will be available when he has arrived at the proper age.

	£	s.	d.
"A. L. J.," Mumbles ...	1	0	0
Ackland, J. M., Exeter	0	10	6
Addison, H. C., Broxbourne	1	1	0
*Alvanez, Rev. Thos. E., Northern Nigeria ...	1	1	0
	5	5	0
Anstey-Chave, T., Cardiff ... ... & £2 2s. per an. for 5 yrs.			
Anonymous	0	10	6
Anonymous, London ...	1	0	0
Anderson, A. W., Ogmore Vale	2	2	0
Andrew, H., Exeter ...	0	10	6
	2	2	0
Arthur, John, Llandaff ... ... & £1 1s. per an. for 5 yrs.			
Askin, T. C., Woodbridge	1	1	0
Atkinson, T. R., Chadwell Heath	0	5	0
Atkins, S. E., Exeter ...	0	10	6
Ayre, F. J., Llantwit Major	1	1	0
Barry, W. J. M., Penarth	5	5	0
Bangay, R., New Tredegar	1	1	0
Barton, H. T., Blackpool	2	2	0
Barnard, B., Machen ...	2	2	0
Bevan, H. C., Blaina ...	1	1	0
Berryman, H. A., Major, R.A.M.C.	1	0	0
Beddow, J., Exeter ...	0	10	6
Bennett, H., Builth Wells	1	1	0
Biddle, C., Merthyr ...	2	2	0
Binns, J. B., London ...	0	13	6
Blight, W. Lyne, Cardiff	5	5	0
Blandford, L. J., Stockton-on-Tees	1	1	0
Blake, A. P., Grays, Essex	0	5	0
Brownlee, Alex., Cardiff	1	1	0
Boyd, J., Cardiff	2	2	0
Bowen, E. R., Bargoed	1	17	0
Boyd, S. M., Harrogate	0	10	6
Bowen, Owen, Liverpool	1	1	0
Body, T. M., Middlesbro'	0	10	6
Bolton Div., B.M.A. ...	4	15	0
	1	0	0
Brierley, B. E., Cardiff ... ... & £1 per an. for 5 yrs.			
Broad, B. W., Cardiff ... ... & £5 5s. per an. for 5 yrs.			
Brewer, R. E. W., Brewer, F. H. W., Newport, Mon. ...	3	3	0
Brown, John, Bacup ...	0	10	6
Brickdale, J. M. Fortescue, Bristol ...	1	1	0
Brigstocke, C. A., Haverfordwest	1	1	0
Brazil, W. H., Coventry	1	1	0
Bruce, H. W., London	1	1	0
Brit. Med. Assoc. Insurance Defence Fund...	200	0	0
Brownlee, James, Middlesbro'	0	10	0
Bryans, A., Middlesbro'	0	5	0
Brook, W. F., Swansea	3	3	0
Brighton B.M.A. Representative Meeting ...	25	4	0
*Britten, F. C., London	0	10	6
*Barke, Miss Ethel R., Cardiff ... & £1 1s. per an. for 4 yrs.	3	3	0
Burke, J. P. T., Abertridwr	2	2	0
	5	5	0
Butler, T. Harrison, Leamington ... & £5 5s. per an. for 5 yrs.			
Buckham, F., Cardiff ...	3	3	0
Budge, E. J. H., Barry	2	2	0
Burd, C. V., Okehampton	0	10	6
Bucks Div., B.M.A. ...	4	7	6
*Butt, Mrs. A. S., Abergavenny	0	10	0
Cantillon, D. E., Cardiff	2	2	0
Campbell, H., Cardiff ...	3	3	0
Cameron, R., Cardiff ...	5	5	0
Carruthers, J. F., Jersey	0	10	6
Cardale, H. J., London	0	10	6
Candler, A. L., Exeter	0	10	6
Cambridge Division, B.M.A.	1	15	0
Cecil, H. A., Ystrad Mynach...	2	2	0
Clayton, F., Leamington	1	1	0
Clapp, G. T., Exeter ...	0	10	6
*Clarke, L. S. G., Balaghat, India	1	0	0
Child, H., Exeter	0	10	6
"Charitable Fund," per E. Hooper May, London...	5	0	0
Corrigan, W. J., Cardiff	5	5	0
Cownie, J. F., Cardiff...	5	5	0
	3	3	0
Collins, E. T., Cardiff ... ... & £1 1s. per an. for 4 yrs.			
Cochrane, C. E., Porth	1	1	0
Coulter, R. J., Newport, Mon.	5	5	0
Cook, H. G., Cardiff ..	5	5	0
	1	0	0
Cox, Alfred E., London ... ... & £1 per an. for 4 yrs.			
Cowie, R. A., Ebbw Vale	1	1	0
Collis, Edgar L., London	2	0	0
*Cory, Mrs. John, Penarth	25	0	0
Corbett, E., Exeter ...		10	6
Coombe Russell, Exeter	1	1	0
Cory, E. J., Trevor, Aberdare	3	3	0
Coventry Division, B.M.A.	6	15	0
Cresswell, F. P. S., Cardiff	5	5	0
Coumbe, J. Batten, Gillingham	1	1	0
Cropper, J., Chepstow	5	0	0
Crerar, J. W., Maryport	1	1	0
*Crapper, Mr. and Mrs. H. S., Poole...	2	2	0
	2	2	0
Cumberlege, G. I., Cardiff ... ... & £1 1s. per an. for 5 yrs.			
Curme, Decimus, Blandford	1	0	0
Cutcliffe, M., Dawlish...	0	10	6
Davies, J. E. P., Llanelly	2	2	0
	2	2	0
Davies, F. W. S., Cardiff ... ... & £1 1s. per an. for 3 yrs.			
Davies, Howard, Pontypridd	2	2	0
Davies, G. L., Histon ...	0	10	6
Davies, R. T. E., New Tredegar	2	2	0
Davies, Ivor, Cardiff ...	2	2	0
	3	3	0
Davies, D. Leighton, Cardiff ... & £1 1s. per an. for 5 yrs.			
Davies, Eleazar, Pochriw	2	2	0
Davies, D. Arthur, Sketty, Glam.	1	1	0
Davies, Evan N., Pontyclun	2	2	0
Davies, J. Hopkin, Port Talbot...	1	1	0
David, W. W., Pontypridd	3	3	0
Davy, H., Exeter... ...	0	10	6
	2	2	0
Devereux, A. C., Cardiff ... ... & £1 1s. per an. for 4 yrs.			
Deas, P. M., Budleigh Salterton	0	10	6
Derbyshire Division, B.M.A.	12	16	0
Dickin, E. P., Brightlingsea	1	1	0
Dickie, W. S., Middlesbro'	0	10	6
*Dillwyn, Miss, Swansea	1	0	0
Dawkin, G. M., Pontypridd	2	2	0
Downing, Charles, Cardiff	3	3	0
Dover, J. F., Whitchurch, Glam.	2	2	0
Domville, E. J., Exeter	1	1	0
Donaldson, James, Middlesbro'...	0	10	6
*Dovey, C. E., Cardiff...	5	5	0
Dunbar, H. J., Cardiff...	3	3	0
Dunn, L. A., London ...	5	5	0
Duncan, T., Exeter ...	0	10	6
Drapes, T. L., Chepstow	2	2	0
*Drewry, F., Buxton ...	1	1	0
Dyball, B., Exeter ...	0	10	6
Eager, Richard, Exminster...	0	10	6
East, W., Norwood, London...	1	1	0
Edwards, W. T., Cardiff	5	5	0
Edwards, D. T., Taffs Well	2	2	0
Edwards, W. B., and C. Armstrong, Seven Sisters, Glam.	5	5	0
Edwards, J. W., Middlesbro'...	0	10	6
Elder, Elizabeth, Cardiff	2	2	0
Elworthy, H. S., Ebbw Vale	2	2	0
Elsworth, R. C., Swansea	2	2	0
*Elliott-Drake, Rev. H. M., Briscoe	1	1	0
*Egles, Miss D., Outshoorn, Cape Colony	1	10	0
*Edwards, E., Cardiff...	2	2	0
Emrys-Roberts, E., Cardiff	2	2	0
England, P. J., Cardiff	2	2	0
*England, Councillor E., Cardiff	1	1	0
Essex, S. E. Division, B.M.A.	5	5	0
	1	0	0
Evans, Eric, Cardiff ... ... & £1 per an. for 5 yrs.			
Evans, W. T., Treharris	1	1	0
Evans, Evan, Llanelly	1	1	0
Evans, H. T., Blackwood	1	1	0
Evans, W. H., Colyton, Devon	0	10	6
Fagge, R. Hilton, Melton Mowbray ...	2	2	0
Falconer, J. E., Middlesbro'...	0	5	0
Fenwick, C., Exeter ...	0	10	6
Finny, Thomas, Aberaman	1	1	0
*Finch, H. Wynne, Crowborough	30	0	0
	1	1	0
Fiddian, A. E., Cardiff ... ... & £1 1s. per an. for 3 yrs.			
Fitzgerald, D. A., Cardiff	2	2	0
Fort, C. L., British Columbia	10	0	0
Fordyce, B. E., Cambridge	2	2	0
Forsdike, H. S., Porthcawl	5	5	0
Forsyth, Charles, Southend-on-Sea ...	0	10	6
*Fisher, Colonel H. Oakden, Radyr	5	5	0
Fripp, Sir Alfred D., London	10	10	0
	5	0	0
Fremantle, F. E., Hertford ... ... & £5 per an. for 2 yrs.			
Frost, T. J., Llanhilleth	0	10	6
Frost, J. K., Exeter ...	0	10	6
*Friend, An Old Oxford	50	0	0
Fuller, W. A., Milnthorpe	1	1	0
Fulton, A., Nottingham	1	1	0
Gallaher, J. F., Cardiff ... ... & £1 1s. per an. for 3 yrs.	1	1	0
Gamgee, Leonard P., Birmingham	2	2	0
Gates, M. E., Exeter ...	0	10	6
*Gilbertson, F. W., Swansea	2	2	0
Gillespie, W. J., London	0	10	6
Gidley, G. G., Cullompton, Devon	0	10	6
Goodhart, Sir James, London...	21	0	0

	£	s.	d.
Goodall, E., Cardiff ...	5	6	0
*Goldberg, Hyam, Swansea	1	1	0
Griffiths, P. Rhys., Cardiff	2	2	0
Griffiths, Percy W., Bridgend	1	1	0
Griffiths, W. L., Swansea	1	1	0
Griffiths, C. A., Cardiff	5	5	0
Grant, J. W. Geary, Cardiff	1	1	0
Grant, R., Cromer ...	2	2	0
Greer, W. J., Newport, Mon.	1	1	0
*Gregory, Mrs., Caerphilly	0	10	0
Gordon, W., Exeter ...	0	10	6
Gough, Bernard B., Bristol	1	1	0
Glastonbury "Medicos"	1	1	0
Greenwood, Major, London	1	0	0
	2	2	0
Greene, C. W., Rochester	& £2 2s. per an. for 4 yrs.		
Harris, W. B., Cardiff...	2	2	0
Harries, D., Carmarthen	0	10	6
Hacquoil, P. H., Penarth	1	1	0
Haycraft, J. B., Cardiff	1	1	0
*Hazel, A.E.W., Oxford	2	2	0
*Harries, D., Cardiff ...	3	3	0
*Handcock, Colonel J. J., Cardiff	5	5	0
*Harris, A.J., Llanishen	1	1	0
Harding, R., New Radnor...	1	1	0
Hall, E. S., Bitterne, Hants	1	8	8
Halifax Division, B.M.A.	4	0	0
Harris, Robert, Southport	1	1	0
*Hempson, W. E., London...	5	5	0
Hepburn, David, Cardiff	2	2	0
*Herring, Mrs. A., Quebec...	1	0	0
Hedden, R., Honiton, Devon	0	10	6
Hinks, A. G., Westcliff-on-Sea	0	10	0
*Higson, Rev. G. L., Knutsford	2	2	0
Hind, Wheelton, Stoke-on-Trent	10	0	0
Hicks, Philip, Leamington...	1	1	0
	1	1	0
Howell, John, Cheltenham ...	& £1 1s. per an. for 3 yrs.		
Hoops, H. L., Cardiff...	1	1	0
Hodgson, V. J., Westcliff-on-Sea	0	10	0
Howell, Alf., Cardiff ...	4	4	0
Hopkins, Edward, Bedlinog	1	1	0
Hopkins, R., Llangadock	1	1	0
*Hughes, W. Hawker, Oxford	1	1	0
Hunt, De Vere, Cardiff	2	2	0
Ibotson, E. C. B., Britoa Ferry	1	1	0
Isaac, R. J., Pontardulais	1	1	0
Inman, R., Ammanford	0	10	6
*Ingledew, J. P., Cardiff	1	1	0
*James, C. B., Cardiff...	3	0	0
*James, Mrs. C. H., Cardiff	2	0	0
James, P., Senghenydd	2	2	0
Jackson, T. L., Cheadle	1	1	0
Jackson, H. W., Middlesbro'	0	5	0
James, W. T., Newquay, Cardigan	0	10	6
Jephcott, Charles, Chester	1	1	0
Joscelyne, E. W., Cardiff	2	2	0
Jenkins, J. D., Pentre	1	1	0
"J. F."	0	5	0
*Jones, Mrs. R. W., Penrhiwceiber	2	2	0
Jones, D. Rhys, Cardiff	2	2	0
Jones, T. W., Barry Dock	1	1	0
Jones, J., Bowen, Cardiff	2	2	0
Jones, Evan, Llanybyther	0	10	6
Jones, C. A., Penarth...	1	1	0
Jones, W. Llewelyn, Merthyr	2	2	0
Jones, B. G. Phillips, Penrhiwceiber	2	2	0
Jones, Evan, London ...	3	3	0
John, Thos., Swansea...	1	1	0
Jones, Evan, Aberdare	1	1	0
King, J. C., Barry ...	2	2	0
*Lainé, J. M., Leamington	4	4	0
*Lainé, Mrs. J. M., Leamington	1	1	0
*Lancaster, Arthur H., Send, Surrey	5	5	0
*Lancaster, Percy Locke, Ealing	1	1	0
THE LANCET Medical Insurance Committee Discretionary Fund...	25	0	0
THE LANCET "Relief Fund"	25	0	0
Lawrence, A. G., Chepstow	2	2	0
Lancaster, E. Le Cronier, Swansea ...	3	3	0
Lane, Sir W. Arbuthnot, Bart., London	2	2	0
*Lewis, Rupert, Taffs Well	0	10	6
*Lewis, W. Morgan, Cardiff	3	3	0
Lewis, Cyril, Cardiff ...	2	2	0
Leigh, W. W., Treharris	3	3	0
Ley, H. Rooke, Boscombe	1	1	0
Latimer, H. A., Tunbridge Wells	1	1	0
Levick, M. H., Middlesbro'...	0	5	0
Leeming, Arnold, Sudbury	0	10	0
Lindsay, W. J., London	2	2	0
Llewellyn, T. R., Penygraig	2	2	0
*Llewelyn, Sir J. T. D., Bart., Penllergaer ...	5	5	0
Lloyd, M., Llanarthney	4	4	0
Lloyd, P. A., Haverfordwest	1	1	0
Lovely, C. N., Dawlish	0	10	6
Lord, C. C., Gillingham	1	1	0
Lyttle, J. Shaw, Creigiau	1	1	0
"M."	2	2	0
Maclean, E. J., Cardiff	10	10	0
Martin, William, Cardiff	5	5	0
Martin, H. C., Caerleon	1	1	0
Martin, Allan, Cardiff	3	3	0
Martin, D. Cargill, Cardiff	2	2	0
Mathias, C. D., Tenby	1	1	0
Marsh, P., Birmingham	1	1	0
Martin, E. W. S., Brithdir	2	2	0
MacManus, J. R. H., Bedwas	2	2	0
Mackenzie, K. C., Caerphilly	2	2	0
Maunsell, F. I., Tirphil	2	2	0
Macevoy, H. J., London	1	1	0
Maxwell, J. B., Southend-on-Sea	0	10	0
Macpherson, W. H., Exeter	0	10	6
McDowell, S. E. C., Nantymoel	1	1	0
McLaughlin, James, London	0	10	6
McCutcheon, J. P., Blaengarw	2	2	0
Mills, Y. H., Haverfordwest	1	1	0
Milles, W. C., London	0	10	6
Morgan, Naunton, Gilfach	0	10	0
Morgan, E. Rice, Morriston	1	1	0
Morgan, W., Swansea	1	1	0
Morgan, Thomas, Llandovery	0	10	6
Moon, R. O., London ...	3	3	0
Morgan, Idris N., Tonypandy	0	10	6
Morgan, W. H., Westcliff-on-Sea	0	10	0
*Morgan, Colonel W. L., Swansea	1	0	0
Musgrove, C. D., Penarth	3	3	0
Miles, Bertha, Exeter	0	10	6
Neale, George, Barry ...	2	2	0
Neish, W. A., Cardiff ...	5	5	0
Neils, W. F., Caerleon	2	2	0
*Newsam, Mr. and Mrs. Fowler, Broxbourne	1	11	6
Niall, W. G., Chatham	0	10	0
Nicholls, Frank J., Eastbourne	1	1	0
Norman, Ralph, Southend-on-Sea	0	10	6
Nolan, J. S., Bedwas	2	2	0
O'Donovan, M., Cardiff	2	2	0
O'Donnell, F. J., Barry	2	2	0
Parsons, C. O., Cardiff	& £5 5s. per an. for 5 yrs.		
Paterson, D. R., Cardiff	10	10	0
Paterson, H., Cardiff ...	3	3	0
Parry, E. J., Pontycymmer	3	3	0
Paxton, J., London ...	0	10	6
Pearse, Athol, Cardiff	5	5	0
	5	5	0
Pegge, E. V., Briton Ferry ...	& £1 1s. per an. for 5 yrs.		
Penfold, F. W., Rainham	1	1	0
Pereira, J. A. W., Exeter	0	10	6
*Petherick, Mrs., St. Austell	1	1	0
*Peter, R. A., Looe ...	1	1	0
Phillips, John, St. Clears	0	10	6
Pickard, Ransom, Exeter	0	10	6
Powell, Laura G., Cardiff	2	2	0
Poole, T. B., Westcliff-on-Sea	2	2	0
Portsmouth Division, B.M.A.	7	10	4
*Price, F. R. Glynn, Swansea	1	1	0
Price, Wm., Southerdown	5	5	0
Price, R. G., Carmarthen	1	1	0
Price, D. R., Ammanford	1	1	0
Price, E. O., Bangor ...	1	1	0
Price, E. H., Cardiff ...	1	1	0
Prichard, R., Cardiff ...	3	3	0
Prosser, E., Monmouth	1	1	0
Pugh, U. G., Southend-on-Sea	0	10	0
Quick, H. E., Swansea	1	1	0
	5	5	0
Ramsden, Walter, Oxford	& £1 1s. per an. for 5 yrs.		
Randall, Wyndham, Bridgend	2	2	0
Rees, Alf., Cardiff... ...	2	2	0
*Rees, Canon W. G. Edwards, Pendleton	1	1	0
Rees, J. Hugh, Penarth	3	3	0
Rhys, Owen L., Cardiff	3	3	0
Rix, B. Tunbridge Wells	1	1	0
Reidy, C., Bargoed ...	2	2	0
Richmond, H. B., London...	0	10	6
*Richards, Mrs. Richard, West Cross	1	1	0
Roberts, Henry H., Llanelly	2	2	0
Roberts, D. R., New Tredegar	2	2	0
Robinson, J., Cardiff ...	1	1	0
*Riddelsdell, H. J., Llandaff	0	10	6
Rogers, W., Barry ...	1	0	0
Rosewarne, D., D., London...	0	10	6
Rochester, Chatham, and Gillingham Div. B.M.A.	2	5	0
Rogers, A. R., Cliffe ...	0	5	0
Roper, A. C., Exeter ...	0	10	6
Ryce, R., Merthyr	0	10	6
Sansome, T., West Bromwich	1	1	0
Sandoe, J. W., Exeter ...	0	10	6
	3	3	0
Schölberg, H. A., Cardiff	& £1 1s. per an. for 3 yrs.		
Scudamore, L., Abertysswg	1	1	0
	10	10	0
Sheen, William, Cardiff	& £1 1s. per an. for 5 yrs.		
	1	1	0
Shepherd, C. C., Cardiff	& £1 1s. per an. for 3 yrs.		
	5	5	0
Shaw, Lauriston E., London ...	& £2 2s. per an. for 5 yrs.		
Shepperd, Albert, London...	0	10	6
Shadwell, St. Clair B., London	1	1	0
Shiach, S. A., Llanishen, Glam.	2	2	0
Shand, W., Guisborough	0	5	0
Shearer, D. F., Exeter	0	10	6
Simpson, H. E., Southend-on-Sea	0	10	0
Skyrme, H. E., Cardiff	3	3	0
Smith, R. J., Cardiff ...	5	5	0
Smith, R. W. Innes, Sheffield	0	10	6
Smith, Percival, Sirhowy	1	1	0
Smeall, W. F., Middlesbro'	0	5	0
Soden, Wilfred N., London...	1	1	0
Southampton Division, B.M.A.	2	15	0
Solly, R. V., Exeter ...	0	10	6
*South Wales and Mon. Clerks Assoc., Cardiff	7	7	0
Sparrow, G. R., Cardiff	5	5	0
Spurgin, H. B., Northampton...	1	1	0
Spurr, J., Lyme Regis, Dorset	0	10	6
	5	5	0
Stevens, W. Mitchell, Cardiff	& £5 5s. per an. for 5 yrs.		
Stewart, F. R., Penarth	2	2	0
Stone, W. Domett, London...	1	1	0
Stretton, J. L., Kidderminster	1	1	0
	2	2	0
*Statfield, V. C., Durban, Natal.	& £2 2s. per an. for 4 yrs.		
Steinhaeuser, J. R., Lewes	1	1	0
Starling, Hubert J., Norwich	2	2	0
Steel, W., Middlesbro'...	0	10	0
Staffordshire Mid. Div., B.M.A.	4	14	6
Staples, E. P., Strood ...	1	1	0
Stokes, C. E., Exeter ...	0	10	6
	2	2	0
Swiney, F. S., Cardiff	& £1 per an. for 5 yrs.		
Symonds, C. J., London	5	5	0
Sympathisers, Two ...	0	7	0
Terry, R. H., Nelson ...	1	1	0
Telling, W. H. Maxwell, Leeds	2	2	0
Thornley, A. L., Cardiff	2	2	0
Thomas, D. E., Newport, Mon.	0	10	6
Thomas, W. E., Ystrad, Rhondda	3	3	0
Thomas, W. E., Bridgend	1	1	0
Thomas, Frank G., Swansea	5	5	0
Thomas, Jabez, Swansea	5	5	0
Thomas, R. L., Whitland	0	10	6
Thomas, J. Lynn, Cardiff	10	10	0
Thomas, D. J., Bargoed	5	5	0
Thomas, T. W., Caerphilly	2	2	0
*Thomas, Sir W. J., Ynyshir...	5	5	0
*Thomas, Iltid, Swansea	1	1	0
*Thomas, Alderman Morgan, Lord Mayor, Cardiff, 1913...	1	1	0
Thomas, R. Tudor, Cardiff	3	3	0
Thomson, A., Oxford ...	3	0	0
	2	0	0
Thornely, M. H., Major I.M.S. ...	& £1 1s. per an. for 5 yrs.		
Thornley, Joseph, Bolton	1	0	0
Tighe, Vincent, Dublin	1	0	0
Todd, D. F., Sunderland	1	1	0
Tombleson, J. B., Southend-on-Sea ...	0	10	0
Timothy, J. H., Nantgaredig	0	10	6
Tomkys, L. S., Lichfield	0	10	6
Tonge, E., Seaton, Devon	0	10	6
Tweed, E. R., Honiton, Devon	0	10	6
Treasure, W. B. C., Cardiff	5	5	0
Tyson, Wilson, Lowestoft	1	1	0
Tyson, W. J., Folkestone	0	10	6
*Tuberville, Mrs. Picton, Swansea ...	1	1	0
Turner, J. Hill, Cardiff	1	1	0
*Vaughan, Colonel E. M. Bruce, Cardiff	2	2	0
	6	6	0
Vachell, C. T., Cardiff	& £1 1s. per an. for 5 yrs.		
Vachell, H. R., Cardiff	5	5	0
"H. C. V."	1	1	0
Verrall, T. Jenner, Bath	2	2	0
Wallace, Thos., Cardiff	5	5	0
Wallace, John, Cardiff	3	3	0
Wallace, Sam., Cardiff	2	2	0
Walker, R., Cardiff ...	3	3	0
Walker, J. F., Southend-on-Sea	2	2	0
Ward, J., Merthyr ...	1	1	0
Ward, Ernest, Merthyr	1	1	0

	£	s.	d.
Wayne-Morgan, L., Whitchurch	5	5	0
Walker, J. C., Rochdale	0	10	6
Waller, W. A. E., Rugby	1	1	0
Webster, T. J., Merthyr	2	2	0
Weichert, C. J., Penygraig	2	2	0
Whelan, J. H., Cardiff	1	1	0
White, W. Hale, London...	3	3	0
Whiting, A. J., London	1	1	0
White, C. F., London...	0	10	6
Williams, J. D., Cardiff	2	2	0
Williams, Sam., Llanelly	2	2	0
Williams, D. Lewis, Ferryside	1	1	0
Williams, E. R., Carmarthen	0	10	6
Williams, Owen, Bury Port	1	1	0
*Williams, Mrs. John, Cardiff	10	10	0
*Williams, Mrs. Morgan Bransby, Killay... ...	1	1	0
Willock, E. H., Croydon	1	1	0
Wood, W. H. O., Bridgend...	2	2	0
Worthington, R. A., Exeter	0	10	6
*Wright, Colonel J. Roper, Swansea... ...	1	1	0
Williams, D. J., Llanelly	10	10	0
Wills, W. Kenneth, Bristol	1	1	0
*"X"	0	10	0
Yeld, R. A., Okanagan Lake, Brit. Columbia	1	1	0
Young, G. R., London...	0	10	6
Young, J. D., Blackpool	1	1	0
*Young, Mrs. J. W. Islay, Mumbles	1	1	0

The statement is signed by Mr. William Sheen, surgeon to King Edward VII. Hospital, Cardiff, and Dr. A. L. Thornley, as honorary treasurer and honorary secretary to the fund respectively. The names distinguished by an asterisk are those of lay subscribers.

AN UNJUST REBUKE.

To the Editor of THE LANCET.

SIR,—Having recently recalled to a friend, also a layman, some experiences over 20 years ago in London, I related the story of an incident which happened to me in a restaurant in Holborn at that time, and my friend seemed very surprised; it occurs to me that others may be interested, and, indeed, I have often wondered if other short-sighted people have similarly suffered. I happened to go into this restaurant in the evening for a meal and sat at table about three-quarters of an hour eating dinner and afterwards smoking while thinking out a little problem, during which my eyes probably became, unknown to me, fixed in more or less of a stare. That evening I did not happen to wear my spectacles, and could not distinguish details of anything a few feet away. Just before I rose to go out of the restaurant a man crossed the floor and boxed my ears, much to my astonishment, and said: "Take that, you impudent young bounder, for glaring at me like that." I was too astounded to say anything for a moment, thinking the man had taken leave of his senses, but before I could jump up to expostulate he had run out, so the irate diner never knew the truth that I had never seen him at all. I have always been careful since to wear my spectacles in like circumstances for fear of innocently giving offence.

I am, Sir, yours faithfully,

London, March 9th, 1914. MYOPE.

THE EMBERS OF CREDULITY.

THE man who sets out to gather up the vestiges of still lingering superstitious beliefs and quaint customs can have no better field for his operations than that of the more isolated farmsteads and out-of-the-way settlements of the countryside. This fact seems to have been fully recognised by Mr. E. A. Rawlence, of Salisbury, who for five years past has, in prosecuting such work, taken advantage of the peculiar opportunities which his professional duties afford of throwing him into close touch with farmers and agriculturists generally. An interesting paper on "Curative Superstitions Still Obtaining in Dorset," which he read before the Dorset Field Club recently, and which was copiously reported in the *Dorset County Chronicle* of Feb. 5th, shows that he has applied himself with much acumen to the quest, and with signal success, as may be judged from the few extracts which we make. It should be stated that the author of the paper very properly tendered apologies to the medical and dental professions for any injury his revelations might bring about. An old man told Mr. Rawlence that his "vather zuffered tar'ble" from rheumatics—"so he sent two of us boys to Yeovil to have a wonderful receipt made up. We brought it back and put the bottle on the mantelshelf, where it remained for a long time, and so long as it was there vather never had a twing of the rheumatics, but one night we were larking and at hos' play in the kitchen and knocked the bottle off the shelf and broke it, and zure enough vather's rheumatics comed back agin." A leading Dorset auctioneer having suffered from toothache was on his way to the dentist when he met an old client—a farmer. "Wer' be you gwain?" "To the dentist to have a tooth out." "Lor' dwont 'e goo there. I'll tell 'e how to cure it. Now you goo to a young w'oak tree and put yer y'arms round it, an' mark the place wher' yer vingers mate. Then het a zlit in the bark we' yer knife, then put yer left han' behin' yer head and pull out zum hair behin' yer right ear and put it in the zlit o' the bark. Yer'll niver have the toothache agin." The following cure, possibly of equal potency, is from North Dorset: "Get an honest lawyer's pockethandkerchief, wash it in an honest miller's millpond, dry it and iron it with an honest tailor's goose; if you can do that you will never have the toothache again." Mr. Rawlence was assured by a farmer that a "wise woman" whom he had consulted "always picked her herbs at midnight on a full moon, as they were more potent then." "Cures" and charms for warts are numerous, and some are given in the above paper. The inquiries to which we have alluded are of wide scope, embracing matters relating to: (1) remedies for ailments of man and beast; (2) old customs and games; and (3) old saws and sayings—the results of which, garnered within the pages of a published book, should form an estimable contribution to the folklore of Dorsetshire.

"CHARLEYHORSE."

THIS word sounds veterinary rather than medical, but it is the adopted term in the United States for the pathological condition attaching peculiarly to base-ball, and is a term analogous to fencing- and tennis-elbow or housemaid's-knee. With many games nowadays there is a regular name for disablements and discomforts which often accompany the laurels of victory. We have recently received a visit in this country from two redoubtable teams of base-ball players. If this game becomes common in England, as we do not think it will despite its influence in drawing money, there is no doubt many Englishmen will be familiar with the stiffness of the legs and arms known as "charleyhorse"; the condition has received a place in American medical dictionaries as a recognised word.

THE AUTOMATIC REPRODUCTION OF DOCUMENTS.

IN THE LANCET of Jan. 3rd we referred to a new method of copying documents by photography that has been adopted by the Bureau of Records in the Borough of Manhattan, New York. Our comment was based upon the apparent reasonableness of the process as described; we had not then seen the result. Dr. William H. Guilfoy, registrar of records, has now sent us a number of records thus copied, comprising copies of birth, marriage, and death certificates of the city of New York; a death certificate from Leamington, in which all the details, including the 1*d.* stamp, come out vividly; two certificates in French from a *confrère* at Lourdes, certifying the cause of death of a citizen of Syracuse, New York, and that the removal of his body would in no wise endanger health; and finally, a copy of the page of THE LANCET (Jan. 3rd, 1914, p. 51) on which our previous comment appeared. The copies, the text of which appears in white on a black ground, are all clear, and obviously eliminate all danger of error in transcribing.

THE EFFECTIVENESS OF MODERN HEALTH MEASURES.

AN interesting example of the effectiveness of modern health measures is given in the report of Dr. Victor Heiser, director of health at Manila, for the quarter ending Sept. 30th, 1913. Early in September plague-infected rats were found in three houses in a thickly populated section of Manila, and vigorous anti-rat measures were at once instituted. On Sept. 19th, before these measures had reached the Stewart building, in which the office of the *Manila Daily Bulletin* is situated, the editor thereof was taken violently ill and removed to the San Lázaro Hospital. Complete diagnosis of plague was established, but he died on Sept. 22nd. In carrying out antiplague measures in the building a mummified rat and several plague-infected fleas (pulex cheopis) were found in his drawer. Sections of the flea showed the bacillus pestis, and injections from the ground up rat killed laboratory animals by plague. Dead rats were also found in a grocer's shop and restaurant on the ground floor of the Stewart building. The body of a Chinaman employed in the grocery store who had died suddenly on Sept. 20th, his death having been certified as due to pulmonary tuberculosis, was exhumed. The necropsy clearly disproved tuberculosis and gave indications of possible plague, though owing to the decomposition the diagnosis of plague could not be biologically confirmed. No extension of the disease took place, doubtless in consequence of the prompt antiplague measures adopted. Dr. Heiser points out that the first case also affords a most striking instance of the flea transmission of plague.

CHICLE.

THE modern prevalence of the use of chewing-gum in the Western world makes a few details concerning the material of medical interest, for rightly or wrongly different pathological effects have been attributed to it. Chewing-gum is the product of the chicle tree (*Achras sapota*), which is indigenous in the States of Yucatan, Campeche, Tabasco, Chiapas, Vera Cruz, Oaxaca, Puebla, Jalisco, San Luis Potosi, and the Territories of Tepic and Quintana Roo, all in Mexico. In its wild state the tree is usually found in groups, frequently growing to a height of

from 40 to 50 feet. A tree 25 years old, producing 20 to 25 pounds of chicle annually, will measure 25 to 30 feet in height and 22 inches in diameter. When eight to ten years old, and from 12 to 15 inches in diameter, the trees will yield from 5 to 6 pounds. The wood is reddish in colour, resembling mahogany in texture and grain. Prehistoric door-frames and rafters of this wood are found among the Mexican ruins to-day and are still in an excellent state of preservation. The trees are tapped throughout the rainy season by a V-shaped incision encircling the tree. The sap has a milk-white appearance as it flows from the tree, but afterwards becomes yellow, and thickens till it is about the same consistency as treacle. After collection the sap is carried to the boiling-sheds, where it is reduced to the proper consistency. During this operation it is necessary to knead the mass from time to time in order to drive off the water, when it should become lightish-grey in colour, although the exact shade varies according to the different districts of origin. The chicle is almost exclusively exported to the United States, where it is made into chewing-gum, and, according to the Mexican Year-book published in Mexico City, New York, and London (McCorquodale and Co., Limited), about 600,000 kilogrammes are exported to British Honduras, 870,000 kilogrammes to Canada, 1,700,000 to the United States, and only a few hundreds of kilogrammes to other countries.

THE SPREADING OF SCARLET FEVER.

AT Hitchin petty sessions recently a woman named Boyier was convicted upon a summons charging her with allowing her daughter, when suffering from scarlet fever, to be exposed without taking proper precautions against infection. The Hitchin rural district council were the prosecutors. In the locality where the girl lived there had been an outbreak of scarlet fever in November, followed by another early in January, and in the course of inquiries the girl mentioned was found in a peeling condition engaged upon ironing, having been excluded from school that day on account of her state. She had been playing a short time before with other children known to be infected and had recently been to a Sunday-school treat. Her father was employed in the milk trade. The mother declared that she did not know that her daughter had suffered from anything more than a cold. The bench seem to have come to the conclusion that the mother was negligent, but their decision as to her guilt was couched in somewhat ambiguous terms, the chairman being reported as saying that if the defendant did not know the nature of the disease she ought, as a mother of children, to have known. They would convict her, but as the local authority did not ask for a heavy penalty none would be inflicted. The bench wished, however, to caution her severely as to the future, and also wished others to know that they must not expose a patient suffering from scarlet fever.

THE "QUIDOS" CORK SANITARY CUSHION.

Mr. Leoline Edwards, of 81, St. Margarets-road, Twickenham, has sent us a specimen of a cushion seat for which he claims sanitary advantages. The seat is made of two pieces of green "rot-proof" canvas sewn together and filled with granulated "Quidos" cork. The canvas is sewn across in six parallel divisions, each division being filled with broken cork. This filling is non-conducting, and can be washed or disinfected by steam or heat without injury. The material, which is also used for mattresses and chairs, is very cleanly, and there can be no excuse for not keeping the cushion clean, since this can be done without spoiling the fabric.

AN ELASTIC TRUSS.

WE are asked by Mr. John Dee Shapland, M.R.C.S., of Exmouth, to say that the truss mentioned in THE LANCET of last week is made by Brook's Appliance Company, Bank Building, Kingsway, London, W.C.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 11th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Mar. 5	29·69	S.W.	0·01	60	53	49	49	51	Overcast
,, 6	29·42	W.	0·06	97	58	50	48	51	Cloudy
,, 7	29·50	W.	...	53	46	43	43	44	Raining
,, 8	29·42	W.	0·25	59	52	44	46	47	Raining
,, 9	29·48	N.	0·73	44	42	40	40	40	Raining
,, 10	29·62	W.	0·52	80	45	36	36	37	Fine
,, 11	29·97	W.	0·01	83	47	33	33	34	Fine

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Discussion: The Constitution of the Atom (opened by Sir Ernest Rutherford).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.

SECTION OF THERAPEUTICS AND PHARMACOLOGY (Hon. Secretaries: W. Langdon Brown, Philip Hamill): at 4.30 P.M.

Paper:

Dr. G. C. Low: The Therapeutic Uses of Emetine.

SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart C. Price-Jones): at 8.30 P.M.

Dr. J. F. Gaskell: The Lesions of the Kidney in Ulcerative Endocarditis.

THURSDAY.

SECTION OF DERMATOLOGY (Hon. Secretaries—J. M. H. MacLeod, S. E. Dore): at 4.30 P.M.

Cases:

Dr. Pernet: (1) Multiple Lupus Vulgaris; (2) Angioma Serpiginosum.
Dr. S. E. Dore: Multiple Subcutaneous Fibromata.
Dr. Norman Meachen: Persistent Erythema.
Dr. A. M. H. Gray: (1) Chronic Erythematous Eruption; (2) Acne Agminata with Bilateral Enlargement of Lachrymal Glands; (3) Recurrent Bullous Eruption of Legs.
And other Cases.

FRIDAY.

SECTION OF ELECTRO-THERAPEUTICS (Hon. Secretaries—Cecil R. C. Lyster, S. Gilbert Scott): at 8.30 P.M.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Demonstration of Pathological Specimens. Private Cases sent for Consultation. Clinical Cases will be shown by Dr. M. Dockrell, Dr. Bunch, Dr. Sibley, Dr. Phibbs, Dr. Gooding, and Dr. Griffith. 5.15 P.M., Paper:—Dr. Bremner (Leicester): The Frontiers of Dermatology.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Mr. R. Burrows: Must a Prison Governor Keep Prisoners not Merely Safe, but Safe and Sound?

CHELSEA CLINICAL SOCIETY, Club Rooms of the Medical School, St. George's Hospital, S.W.

TUESDAY.—8.30 P.M., Annual Clinical Debate on Arteriosclerosis. Paper:—Dr. L. Williams: Arteriosclerosis. Followed by a discussion in which Dr. Langdon Brown, Dr. C. Thomson, Dr. Furber, Dr. H. Dally, and others will take part.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

WEDNESDAY.—4 P.M., Epidiascope Demonstration.

ROYAL SOCIETY OF ARTS, John-street, Adelphi, W.C.

WEDNESDAY.—8 P.M., Mr. R. H. Ross: House Flies and Disease.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

TUESDAY.—5 P.M., Goulstonian Lecture:—Dr. M. A. Cassidy: Rheumatoid Arthritis. (Lecture III.)

THURSDAY.—5 P.M. Lumleian Lecture: Dr. J. A. Ormerod: Some Modern Theories concerning Hysteria. (Lecture I.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. L. Bunch: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. J. Jex-Blake: The Nervous Complications of Diseases of the Chest.

TUESDAY.—4 P.M., Dr. R. H. Miller: Clinique (Medical). 5.15 P.M., Lecture:—Dr. S. A. Owen: The Clinical Significance of Enlargement of the Liver and Spleen in Infancy and Childhood.

WEDNESDAY.—4 P.M., Mr. G. Taylor: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. W. Carmalt Jones: The Classification of Arthritis.

THURSDAY.—4 P.M., Dr. G. Holmes: Clinique (Medical). 5.15 P.M., Lecture:—Dr. R. W. Allen: The Rôle and Scope of Vaccine Therapeutics in Medicine.

FRIDAY.—4 P.M., Mr. J. G. French: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Page: Spinal Anæsthesia.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Bernstein.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 11 A.M., Mr. Souttar: Demonstration of Minor Operations. 12 noon, Lecture:—Mr. Souttar: Abdominal Diagnosis. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Mr. Page: General Anæsthesia.

THURSDAY.—9 A.M., Dr Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Armour: Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Owen: Ascites, Causes and Treatment.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin. 5 P.M., Lecture:—Dr. Owen: Ascites, Causes and Treatment.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Diseases of the Eye. 12 noon, Lecture:—Mr. Souttar: Surgical Anatomy of the Abdomen. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. B. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. Howell Evans); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Special Demonstration:—Dr. G. G. Macdonald: The Examination of Blood Diseases. 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Lecture:—Mr. Hills: The Administration of Ether by the Open Method.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. B. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. B. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel). Clinical Pathology and Pathological Demonstration.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), Clinical Theatre, London Hospital, Mile End-road, E.

Course of Lectures on Syphilology:—

TUESDAY.—4.15 P.M., Mr. H. Tod: The Ear, Nose, and Throat.

WEDNESDAY.—4.15 P.M., Dr. H. R. Andrews: Ante-natal Pathology.

FRIDAY.—4.15 P.M., Dr. R. Hutchison: Congenital Syphilis.

The Schorstein Memorial Lectures (in the Anatomical Theatre):—

THURSDAY.—4.15 P.M., Dr. H. Head: The Clinical Aspect of Syphilis of the Nervous System.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.

WEDNESDAY.—4.30 P.M., Lecture:—Dr. D. Grant: The Treatment of Tuberculosis of the Larynx.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY AND FRIDAY,—3 P.M., Lecture:—Dr. A. Wylie: Diseases of the Larynx.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. J. Collier: Treatment of Tabes.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Lesions of Visual Path.

QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.

FRIDAY.—4 P.M., Lecture:—Mr. P. L. Mummery: Some Surgical Cases, with Comments.

CANCER HOSPITAL, Museum of the Hospital, Brompton, S.W.

Post-Graduate Lectures on the Diagnosis and Treatment of Cancer:—

WEDNESDAY.—5 P.M., Mr. Wilson: New Growths of the Testicle.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Room of the Institute, 37, Russell-square, W.C.

Course of Instruction for Tuberculosis Officers, School Medical Officers, Medical Practitioners, &c.:—

FRIDAY.—5 P.M., The Diagnosis and Treatment of Tuberculosis, &c.—Lecture X.:—Dr. F. J. Wethered: Treatment—Sanatorium.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

TUESDAY.—SALFORD ROYAL HOSPITAL—4.30 P.M., Dr. H. Clifford: Treatment of Obstructed Labour.

WEDNESDAY.—ROYAL INFIRMARY—4.30 P.M., Mr. H. H. Rayner: Practical Demonstration in the Use of Local Anæsthetics.

THURSDAY.—ANCOATS HOSPITAL—4.30 P.M., Mr. W. R. Douglas: Chronic Lesions of the Knee-joint.

FRIDAY.—ROYAL EYE HOSPITAL—4.30 P.M., Dr. J. G. Clegg: Glaucoma.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: The Induction of Labour (continued). 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: Obstetrical Operations. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: Hysterectomy, its Forms and General Technique. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SOLE AGENTS FOR AMERICA—Messrs. WILLIAM WOOD AND Co., 51, Fifth Avenue, New York, U.S.A.

The following journals, magazines, &c., have been received:—Medical Review, Child, Archives of the Roentgen Ray, Public Health, Gazette Médicale du Centre, Annales de Gynécologie et D'Obstétrique, Dominion Medical Monthly, Die Therapie der Gegenwart, Clinique Ophtalmologique, Therapeutic Gazette, Annales de l'Institut Pasteur, Homœopathic Recorder, Archives Générales de Médecine, Maryland Medical Journal, Journal of Laryngology, Rhinology, and Otology, American Journal of Medical Sciences, &c.

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